Farm Chemicals

Pioneer Journal of the Industry

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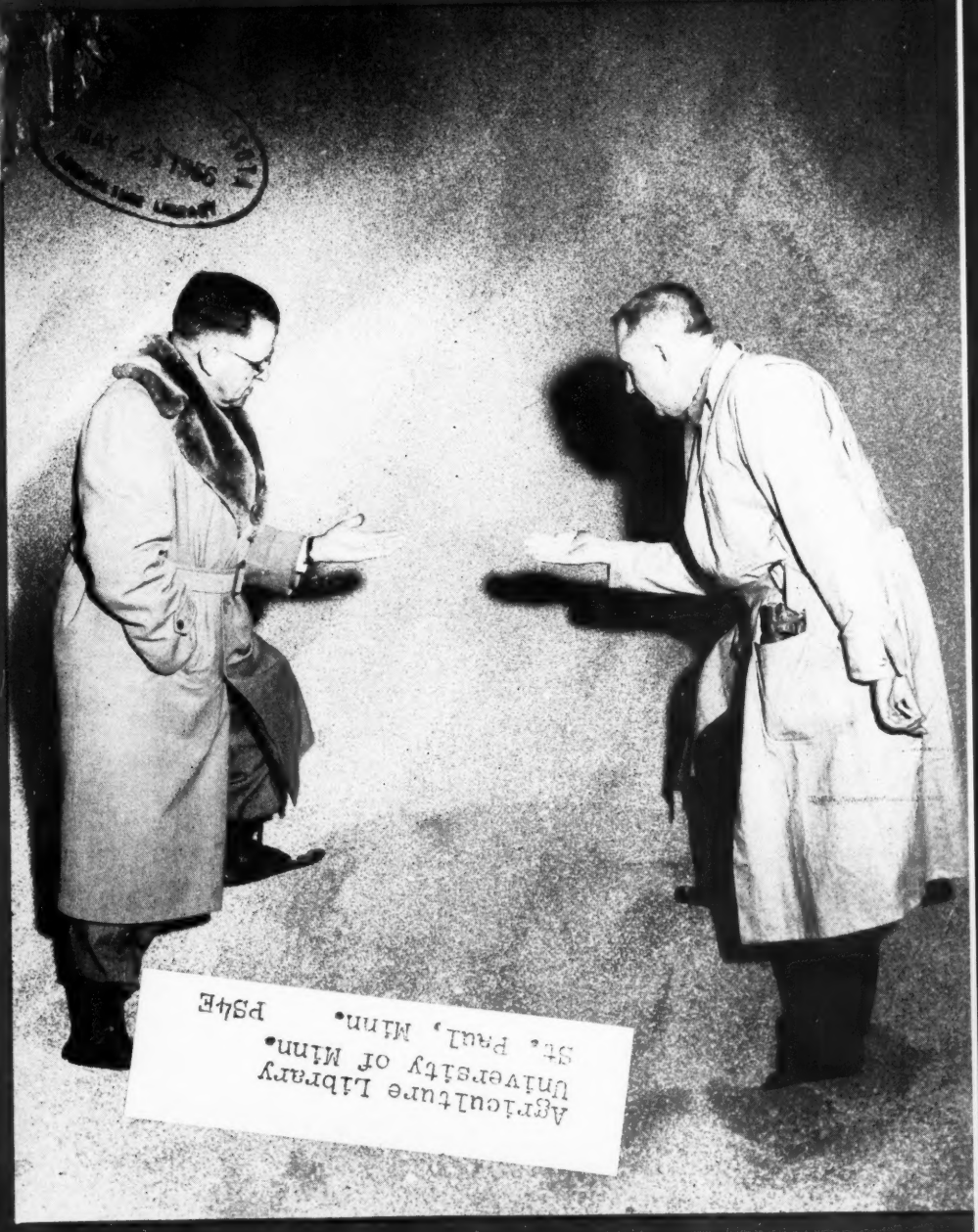

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Vol. 119 No. 5 MAY 1956 50 Cents

Money-making deposit in your SOIL BANK
If you are faced with the problem of making a profit out of growing your cash crops on fewer acres this year – fertilizer is the best help you can get! If you are taking part of your land out of production and planting this to soil-building crops that prevent erosion and build humus and fertility in the soil for future use – fertilizer is the best help you can get!
Fertilizer Grows Farm Profits
"Fertilizer is a real friend!"
Grows Farm Profits

WE ARE ADVERTISING TO HELP YOU SELL MORE FERTILIZER

The importance of fertilizer to farm profits is being brought to the attention of 3½ million readers of farm magazines in a powerful and continuing campaign conducted by Nitrogen Division. The advertisements above are typical of this series of big, full-page ads in leading farm magazines.

These messages to your customers point out that fertilizer today provides the lowest-cost way to build the big yields that make crop profits, and that fertilizer is the best way to reduce production costs per bushel or per pound of crop yield.

This extensive advertising campaign is another way in which Nitrogen Division, originator of Nitrogen Solutions and America's leading supplier of nitrogen since 1921, is serving the fertilizer industry.

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International Minerals & Chemical

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PHOSPHATES

FOR INDUSTRY
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- for the manufacture of complete fertilizers.
- for the manufacture of industrial chemicals.
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If you suddenly find yourself on the spot . . . need a car or two in a hurry, there's usually one or more on track nearby which can be diverted to you overnight. That's the kind of routine service you can expect and get from *International.*

When you depend on *International* for phosphates, you have at your command a great reserve of service strength. Six mines and plants in Florida and Tennessee. Huge modern production facilities. Large storage capacity. A full range of grades of *quality-controlled* phosphates. Fast loading of rail cars or vessels to give you on-time, dependable deliveries to meet your normal and emergency needs.

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FERTILIZER MANUFACTURERS:

NEW SUPERIOR GRANULAR TRIPLE SUPERPHOSPHATE FOR DIRECT APPLICATION IS NOW AVAILABLE FROM U. S. PHOSPHORIC PRODUCTS. GUARANTEED 46% A. P. A.

In addition, run-of-pile Triple Superphosphate for maximum ammoniation and coarse material for mixing purposes continue to be available for immediate shipment against your orders. Contact your nearest Bradley & Baker Sales Office for details.

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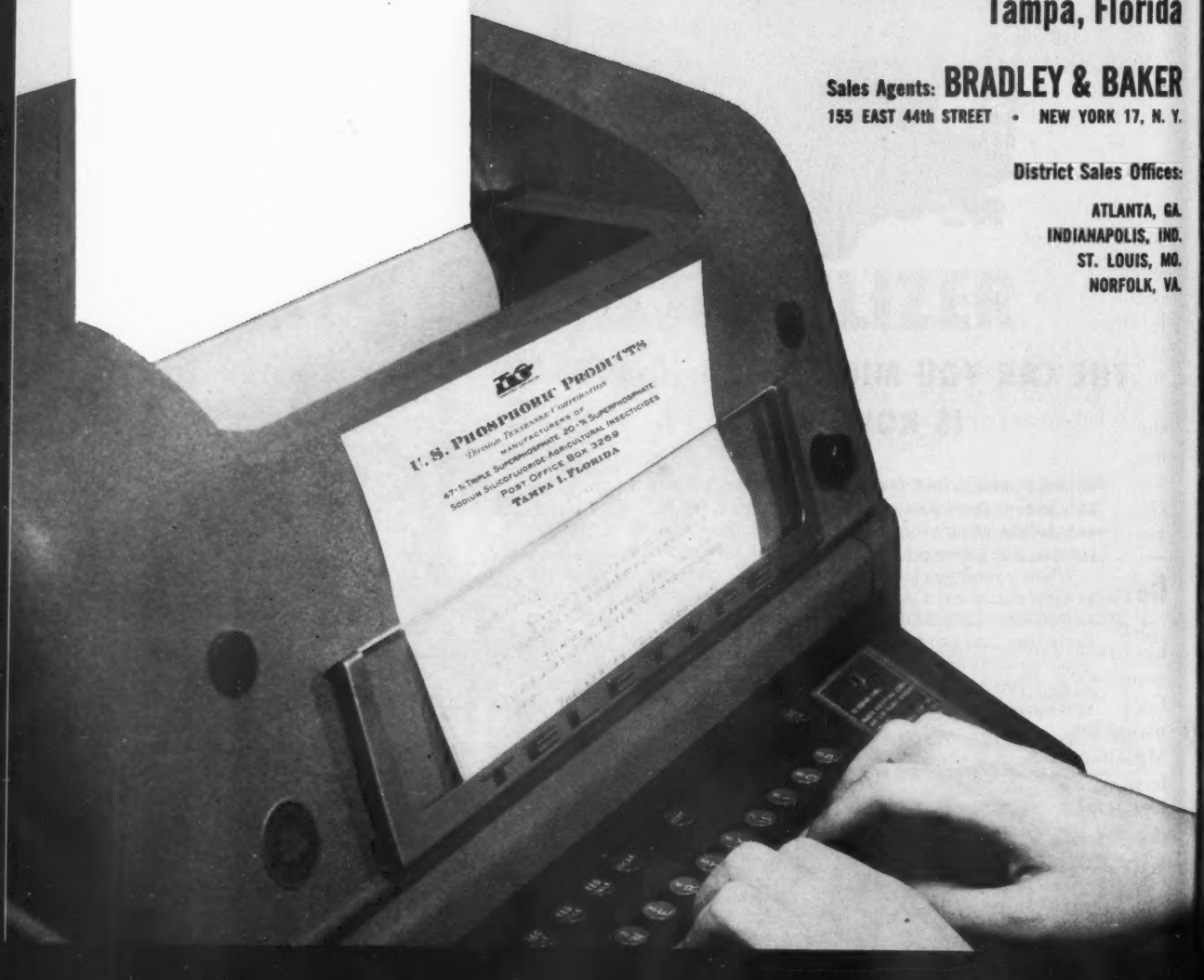

In this issue . . .

Several constructive amendments to the Miller Bill appear to be of real assistance to pesticide registrants. Financial savings should result from FDA grouping of many crops into 27 categories and the agency has spelled out the methods of determining tolerances when two or more materials are involved. A review of the changes begins on page 45.

Earlier this year we had the opportunity of visiting the progressive Robert A. Reichard, Inc. plant at nearby Allentown, Pa. It was a rewarding trip and on page 47 an article covers this firm's new moves in the fertilizer field including installation of a granulating unit, liquid mix plant and NH_3 facilities.

Development of Mexico's farm chemicals industry continues at a rapid pace with announcement of plans for several new plants. On page 42 our correspondent in that country brings you up-to-date on the latest events pointing out the efforts being made to convert to an export fertilizer nation.

Virginia-Carolina Chem. Corp. appears headed for a show-down battle on board policy as reported on page 53. By the time this issue reaches you an insurgent group probably will have begun the first round of the fight by filing with the SEC a request to form a proxy committee and to gather proxy votes.

Rounding out this issue is a short article on the new Stedman-Snyder granulating unit that has been installed in the Green Bay, Wisc. plant of Northwest Coop. Mills. See page 41.

Cover story

Granulated 5–20–20 produced by the new Stedman-Snyder granulating unit at Northwest Coop. Mills' Green Bay, Wisc. plant is examined by G. O. McMillin, manager of the coop's fertilizer div. and H. R. Krueger, Stedman Foundry and Machine Co.

Farm Chemicals

MAY, 1956
No. 5
Vol. 119

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Publisher . . . . SAM LEWIS VEITCH
Editor . . . . GEO. P. TEEL, JR.
Editorial Assistant . . . . PHYLLIS GERHART
Wash. Bureau Chief . . . . JOHN HARMS
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Business & Management

. . . News of the Industry

Site Purchased for Thunderbird NH_3 Plant

Thunderbird, Chemicals, Inc. has purchased an 80 acre site from the Salt River Valley Water Users Assn. for its projected $10 million ammonia plant. The company paid $60,000 for the area, located on Kyrene road, 1½ miles south of the Salt River Power District steam plant in Arizona.

At the same time former Shell Chemical president, Jan Oostermeyer was painting a less than rosy picture for the operation in his speech before the Arizona section of the American Assn. for the Advancement of Science.

Oostermeyer pointed out the unfavorable conditions in Arizona for such plants because "the state has become the dumping ground for marginal ammonia of the big companies." He added that a price war is developing, among plant food producers.

Dismiss Suit Against Waksman, Rutgers

The action instituted by Mary A. Marcus against Selman A. Waksman, Rutgers Research and Endowment Foundation and Merck & Co., demanding $20 million, was dismissed on March 26 by Federal Judge Thomas F. Meaney without prejudice "because of the plaintiff's bad faith."

In 1954 Miss Marcus filed the suit alleging that Dr. Waksman made use of her discovery of a micro-organism in perfecting streptomycin and claimed a share of profits resulting from sale of the antibiotic. On several occasions Miss Marcus failed to appear before attorneys for the defendant for the taking of a deposition and Meany commented that "it seems to me that Miss Marcus has consistently evaded all the processes of this court and has completely failed to give a satisfactory reason why she has not appeared for a deposition."

Texaco Schedules Work on N Plant

The Texas Co. is extending its participation in the petrochemical field, according to the company's annual report. Construction will begin in mid-1956 on a plant to produce anhydrous ammonia and ammonia derivatives, the firm said, and other petrochemical projects are under study, including plans to increase output of the 50 per cent-owned Jefferson Chemical Co.

Petroleum Chemicals Under Construction

Construction on a $12.5 million petrochemical plant at Lake Charles, La., was expected to begin in April, according to an announcement by F. M. Simpson, vice pres. and gen. mgr. of Petroleum Chemicals Inc., jointly owned by Continental Oil Co. and Cities Service Co. Completion of the plant, which will produce annually 100,000 tons of ammonia, is expected by the fall of 1957.

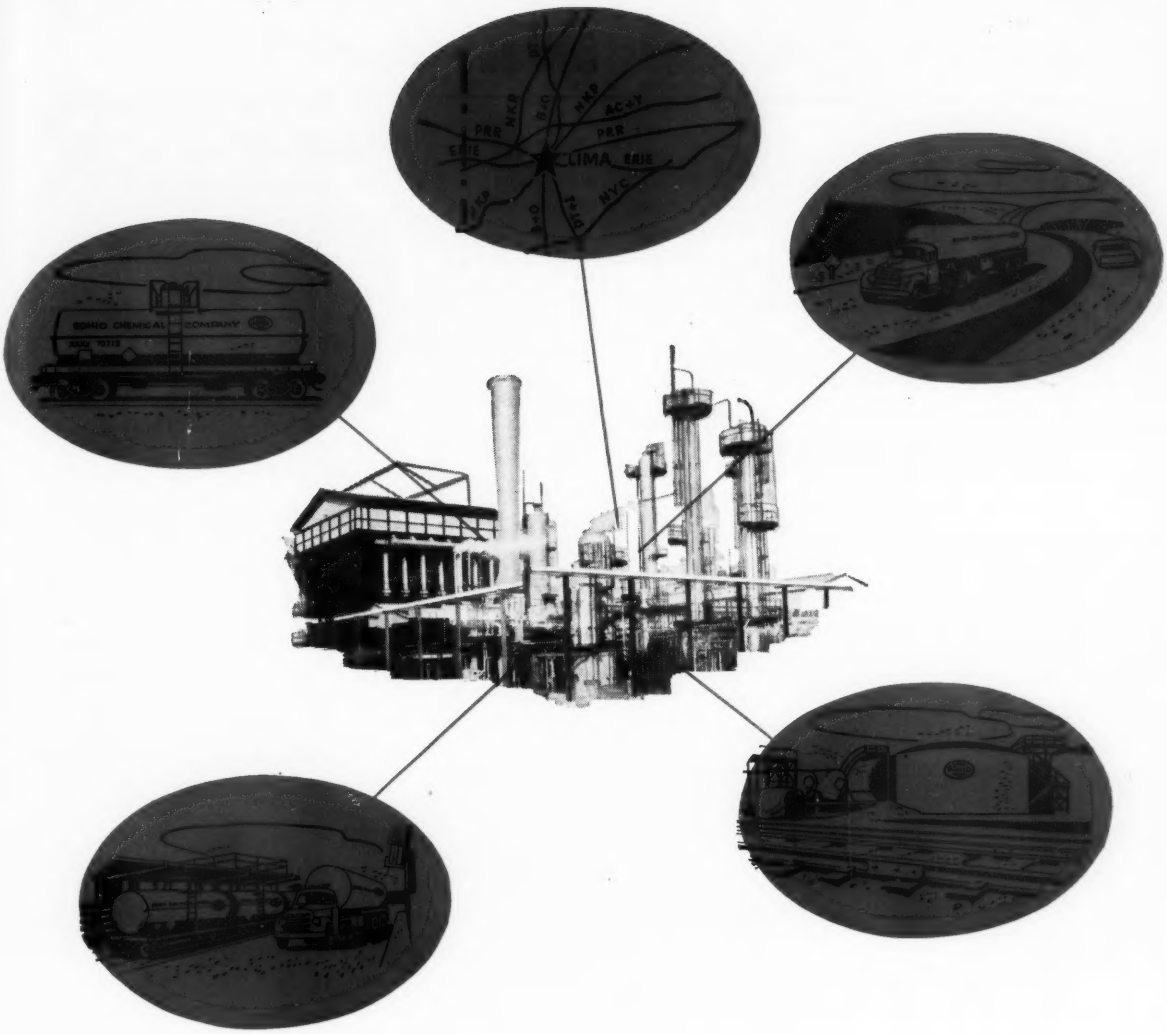
By-product hydrogen will be supplied by the Conoco and Cities Service refineries near Lake Charles. The anhydrous ammonia will be marketed by Mid-South Chemical Corp., also owned by Conoco and Cities Service.

Olson's Feed to Distribute NH_3

Olson's Feed Store in Blair, Wisc. has installed the first anhydrous ammonia distributing plant in its area. Lester Linberg is in charge of the fertilizer operation.

Safety Award to S-D Norfolk

Members of the safety committee of Smith-Douglass Co.'s Norfolk plant admire the President's Safety Trophy, presented to Norfolk for the second time in recognition of the plant's outstanding safety record during 1955. A traveling award, it is presented to the plant with the best safety record for the year among 11 competing Smith-Douglass plants.



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Advanced planning blue-printed Sohio's Lima plant with you — the customer — in mind. Every phase of the operation has been keyed to the smooth servicing of your orders . . . fast, efficient, dependable delivery . . . and service *when you need it.*

. . . *and we're serious about service at Sohio*

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- **SOHIO'S NEW TANK CAR fleet moves rapidly out of Lima on 5 rail lines — Nickel Plate, B&O, Erie, Penna and DT&I.**
- **REGULAR TRUCK DELIVERY within 150 miles of Lima with Sohio's new fleet of tank trucks.**
- **LARGE STORAGE AND LOADING FACILITIES that mean product for you when you want it.**
- **Anhydrous and Aqua Ammonia**
  Urea and Ammonium Nitrate Solutions
  Sohigro Urea Fertilizer Compound

SOHIO

SOHIO CHEMICAL COMPANY

FT: AMANDA RD., P. O. BOX 628, LIMA, OHIO

NFU to Pick Ark. Fert. Plant Site

Arkansas will be the site of one of the five multi-million dollar fertilizer plants to be constructed by a National Farmers Union subsidiary according to J. Albert Hopkins, president of the Arkansas Farmers Union. Originally planned for Georgianna, Ala. the facilities may be located in Helena, Camden or El Dorado.

The change in plans will disrupt the construction time-table, said Hopkins, which originally called for operation of the plant during 1956.

Berrien Products Installs N Sol Tank

A 22,000 gallon nitrogen solutions tank has been installed by Berrien Products Co. at Nashville, Ga. Farmers can rent applicators or can have the material custom applied.

New Dow-Tex. Ag Research Facilities

Completion of a two-year building program at Dow Chemical Co.'s Texas Div., Freeport, Tex., has provided new facilities for extensive research in agriculture.

Consisting of eight new structures, the facilities permit the Agricultural Research Dept. to conduct original studies on plants and animals in a number of fields including disease control, internal and external parasite control, plant physiology and nutrition.

Ag research in the Texas Div., which began in 1946 as a one-man department, now operates with a 16-man staff, headed by Dr. R. W. Colby as director.

Dr. G. B. Truchelut and H. R. Hudgins try out some lab-developed compounds on cotton plants to test their potential as growth control chemicals.

Phillips Fert. Sales Output Up in 1955

Phillips Chemical Co. reports that its fertilizer sales value was 15 per cent above the record set the previous year. . Anhydrous ammonia was produced at maximum rates most of the year, and averaged 1,042 tons daily, 23 per cent more than in 1954. Storage for ammonia and aqua ammonia was increased to nearly one million barrels.

Production of ammonium sulfate averaged 1,009 tons daily, 28 per cent higher than in 1954. Ammonium nitrate and nitrogen solutions production averaged 335 tons daily, compared with 449 tons in 1954, and triple superphosphate output increased 25 per cent.

Minn. Farm Bureau Opens Bulk Plant

Limited operations are reported under way at the new Dodge City, Minn., plant of Minnesota Farm Bureau Service Co. The unit was built to relieve some demands on the St. Paul operation and is designed specially for bulk fertilizer distribution, although all grades of bagged mixed fertilizers and materials will also be offered.

Managed by Dick Hemingway of Hayfield, it is expected to have an annual capacity of 10,000 tons of bulk and bagged materials. The building has a tractor loading ramp running the full width, from scales to railroad car with full access to storage bins.

Atlanta Office For Fairfield Chem. Div.

Fairfield Chemical Div., Food Machinery & Chemical Corp., has opened an Atlanta office at 127 Peachtree St., N.E. plus warehouse facilities. Under the direction of Robert B. Henderson, the office will serve N. C., S. C., Ga., Ala., and Fla. Temporary telephone numbers are Alpine 6575 and 6576.

Henderson, a graduate of the University of Georgia, has worked for the past several years on special technical sales and field development assignments for Fairfield throughout the Southeastern area.

Food & Drug Laws Anniversary Week

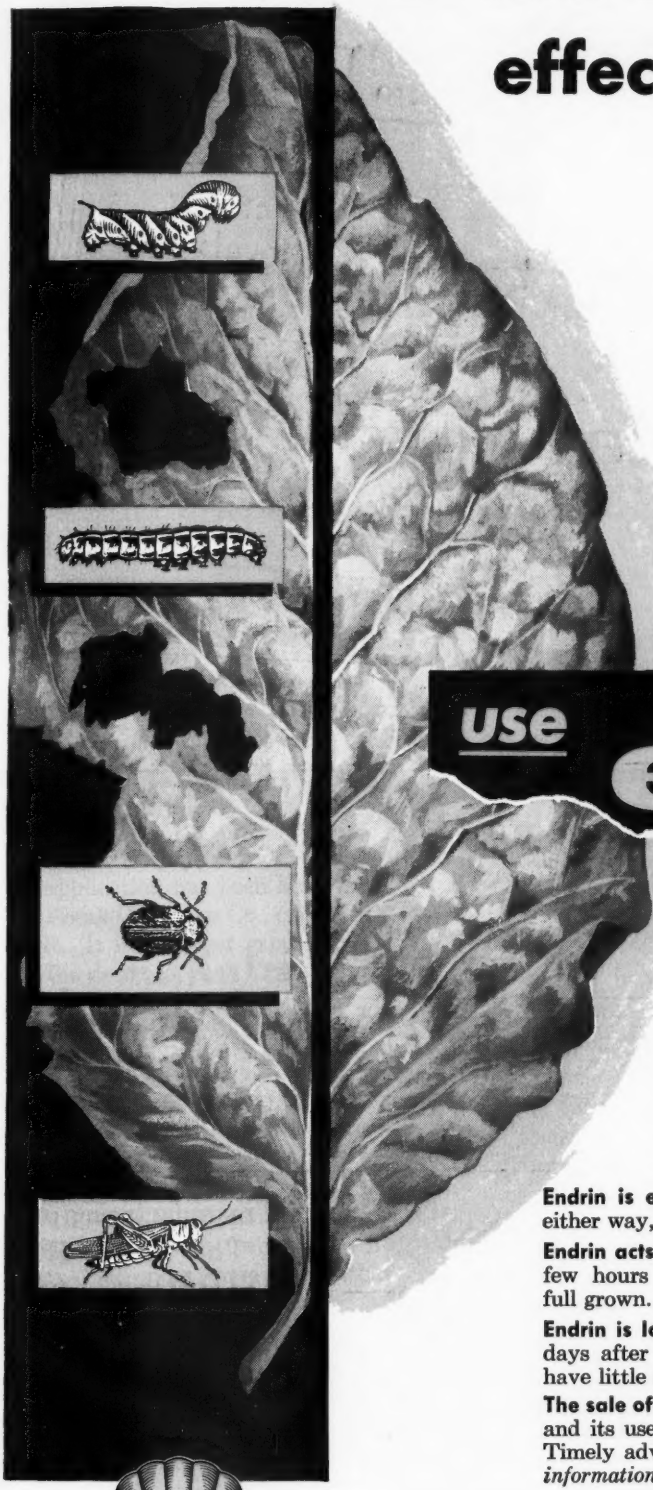
Public attention will be centered on the 50th birthday of federal food, drug and cosmetic legislation by a national "Food and Drug Law Golden Anniversary Week," June 24–30.

Recently a House Judiciary subcommittee voted unanimous approval of a resolution authorizing and requesting President Eisenhower to proclaim the June 24–30 period as "National Pure Food, Drug, Cosmetic and Meat Inspection Laws Week." It is expected that nearly all state governors will make similar proclamations.

Highlights of the June week in Washington will include day-long golden jubilee ceremonies on June 27 and issuance of a special three-cent postage stamp on the same date.

The Assn. of Food and Drug Officials of the United States, whose 50th Anniversary Committee is sponsoring the nation-wide program of commemorative projects, will devote its annual conference in New York, May 6–11, to birthday of the laws.

For longer lasting, more effective protection



against

HORNWORMS

BUDWORMS

FLEA BEETLES

GRASSHOPPERS

use endrin

FOR YEARS, hornworm and budworm have had things pretty much their own way in ravaging tobacco fields. Now they've met their master—endrin. Endrin knocks out hornworms, budworms, flea beetles, and grasshoppers in a hurry—and takes care of other major pests as well. Growers find that endrin provides dependable all-season tobacco pest control.

Endrin is easy to use. Apply endrin in a dust or spray—either way, growers get effective control.

Endrin acts fast. Endrin's lethal action kills worms in just a few hours after application, even when they are nearly full grown.

Endrin is long lasting. Endrin controls effectively for many days after application. Even high winds and hot weather have little or no effect on endrin's long-lasting protection.

The sale of endrin is backed by the finest of technical service, and its use is registered by state and federal governments. Timely advertising helps pre-sell your customers. *Technical information on endrin is available. Write to:*

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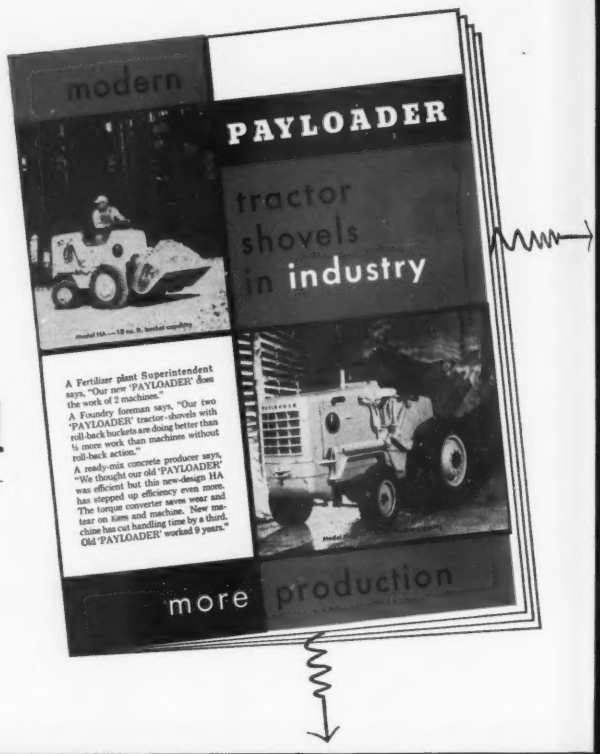
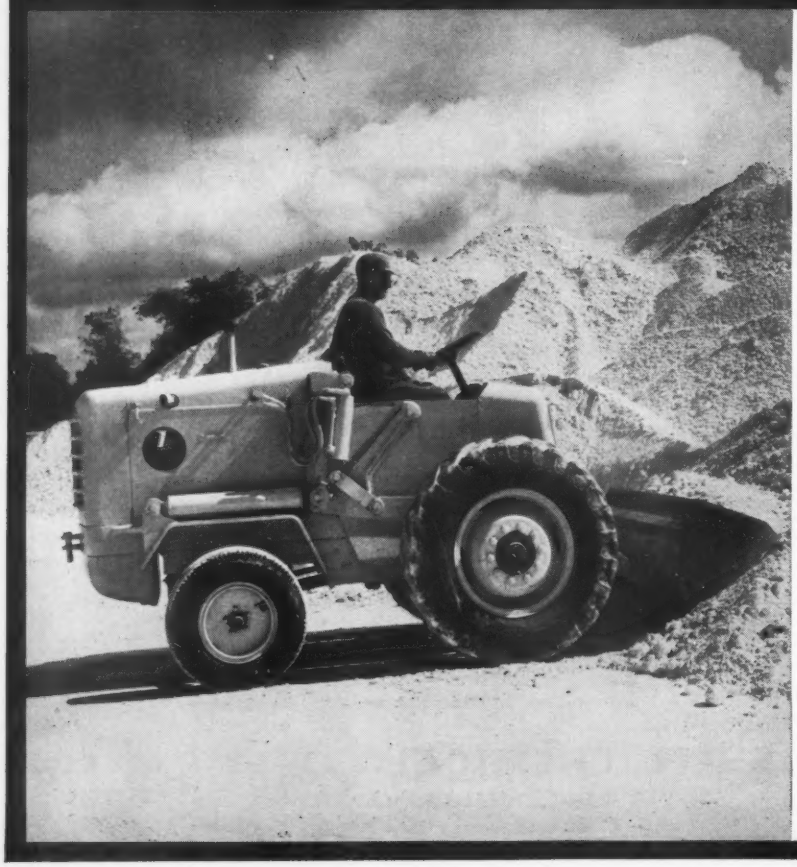

modern
PAYLOADER
tractor shovels in industry
A Fertilizer plant Superintendent says, "Our new 'PAYLOADER' does the work of 2 machines."
A Foundry foreman says, "Our two 'PAYLOADER' tractor-shovels with roll-back buckets are doing better than ½ more work than machines without roll-back action."
A ready-mix concrete producer says, "We thought our old 'PAYLOADER' was efficient but this new-design HA has stepped up efficiency even more. The torque converter saves wear and tear on tires and machine. New machine has cut handling time by a third. Old 'PAYLOADER' worked 9 years."
more production

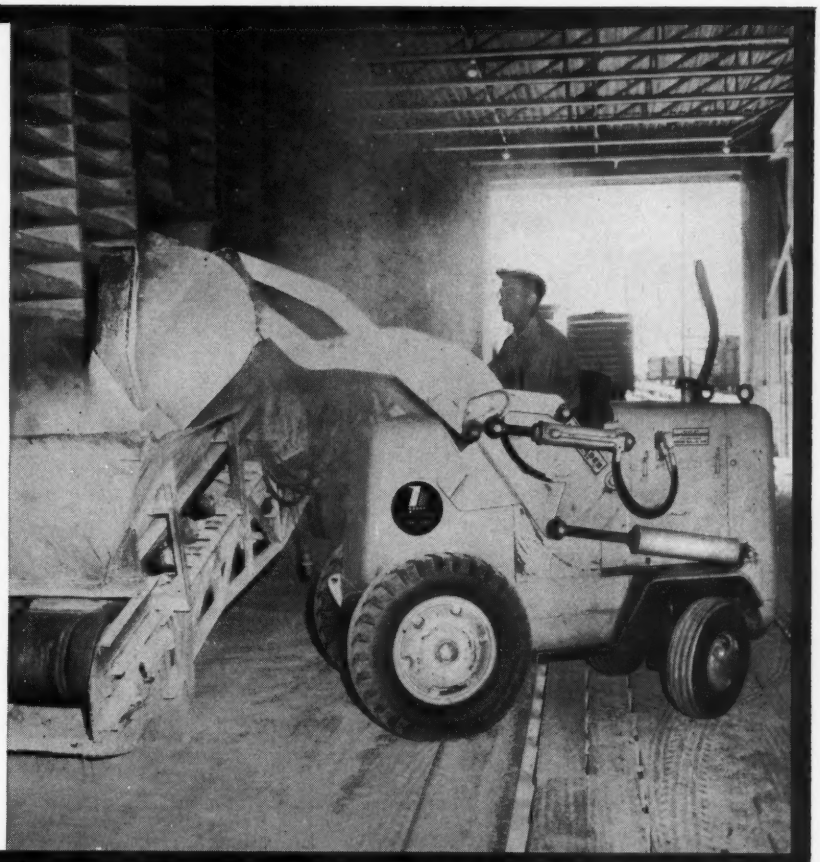


Sulphur

One of the many "PAYLOADER" tasks at this plant is the delivery of sulphur from stockpile to a hopper of the sulphuric acid manufacturing process. The model HAH "PAYLOADER" scoops up 1½ tons of sulphur at a time from the stockpile and quickly carries it to the hopper—a haul distance of 50 to 100 feet.

Clay

Jarka Corp. of New England use four model HA "PAYLOADER" units for bulk material handling in pier operations. This one is moving English China Clay from a warehouse storage bin—handling 200 tons in 8 hours. Their "PAYLOADER" units are also lowered into ship wells to assist in unloading operations.



More than 35 years of experience in tractor-shovel design and application has been built into "PAYLOADER" units by The Frank G. Hough Co., originators of the unit-design tractor-shovel. It is this vast experience and knowledge incorporated into the design of each "PAYLOADER" model that makes the big difference in its superior performance on any job.

The new "PAYLOADER" Models HA and HAH include many exclusive features which pay off in greater output per hour. They are small and compact for easy maneuvering and handling in close quarters, yet have ample dumping height for most any job. The 40° bucket roll-back gets full loads fast and, combined with the hydraulic shock absorber, enables the "PAYLOADER" to carry full loads in a higher gear without spillage. These two features are BIG reasons why these machines give more production than heavier machines with bigger engines.

The full-reversing transmission and torque converter provide a wide range of easily obtainable speeds and maximum efficiency in handling each load. Extremely rugged construction . . . finest quality in each component—assures continuous performance with a minimum of "down-time" and a longer useful life.

PAYLOADER®
MANUFACTURED BY
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.
SUBSIDIARY—INTERNATIONAL HARVESTER COMPANY

It's the difference in performance that has made the "PAYLOADER" the decided choice in thousands of plants throughout the world —there are more in service today than all other makes combined. A "PAYLOADER" is your best investment now — and for the future.

THE FRANK G. HOUGH CO.
704 Sunnyside Ave., Libertyville, Ill.

- ☐ Send profitable bulk-handling reports
- ☐ Literature on model HA (18 cu. ft.) and model HAH (1 cu. yd.) "PAYLOADER"
- ☐ Literature on larger units to 2¼ cu. yd.

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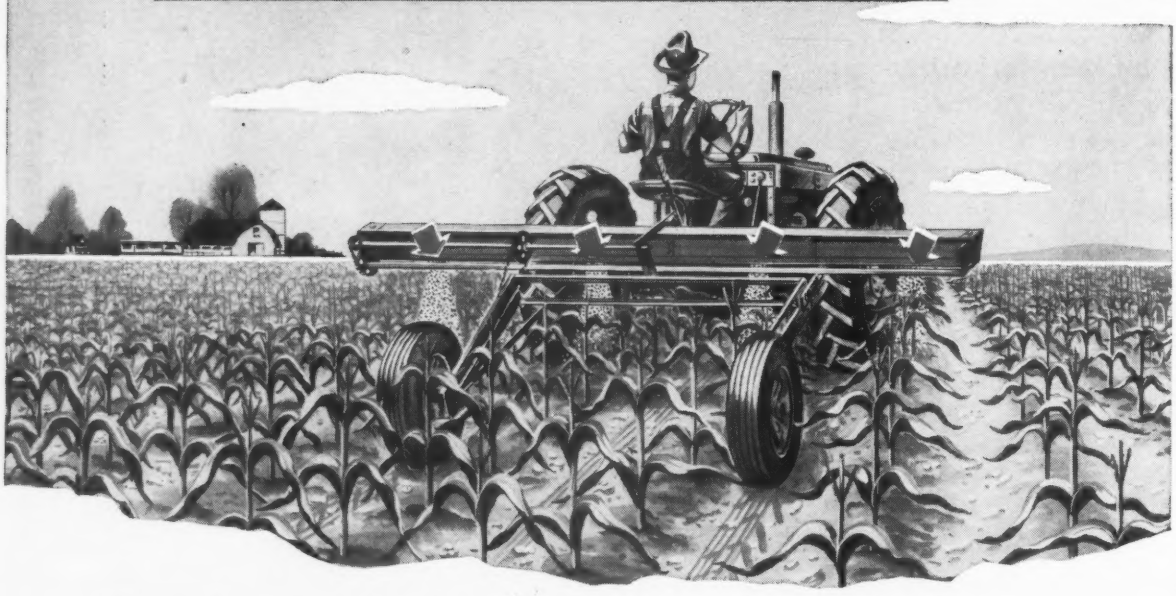
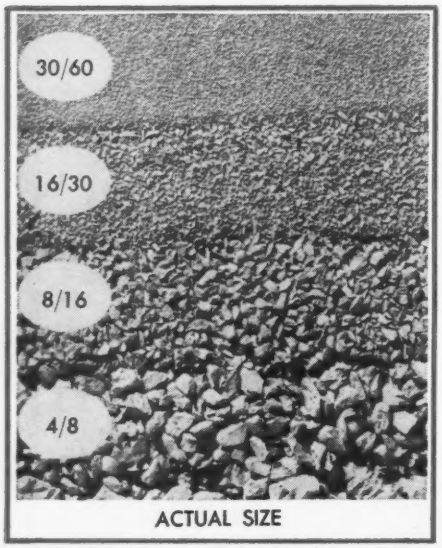


Granular pesticide formulations deposit the chemical where it's most effective . . .



ACTUAL SIZE

Although we've been making granular carriers for a half century, recent new techniques in agricultural pest control have proven granular formulations to be efficient, economical and easily applied, with pesticide residues on foliage at harvest time greatly reduced. The method is already established for combating European corn borer, Japanese beetle larvae, white fringed beetle grub, corn root worm, wireworm, mosquito larvae, and other turf and soil pests. Promising results are being observed in cotton insect control, too.

Because of the amphibole-like structure of Floridin adsorptive granular fullers earth products, uniformity and speed in formulation are at their best. Produced in a variety of mesh sizes, including the popular 20/30, 20/40 and 30/60 ranges, regular Florex and Floridin granulars are available for rapid disintegration in water, or in calcined grades for resistance to disintegration in water.

Build your granular pesticide formulations and your fertilizer-pesticide mixtures on Florex or Floridin granules. Use the type carrier which has actually given superior performance in field tests.

Write for information and samples, specifying the mesh sizes you need.

FLORIDIN COMPANY

Adsorbents
Desiccants
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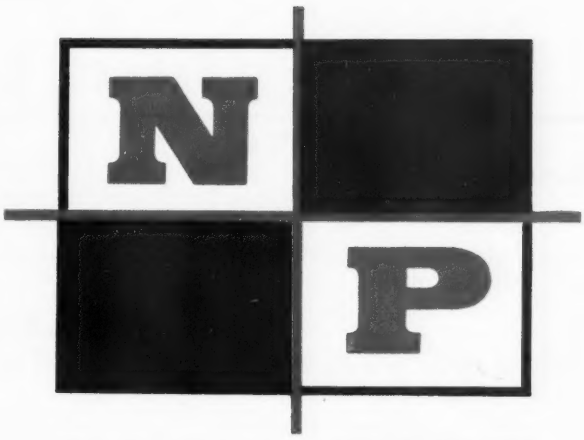
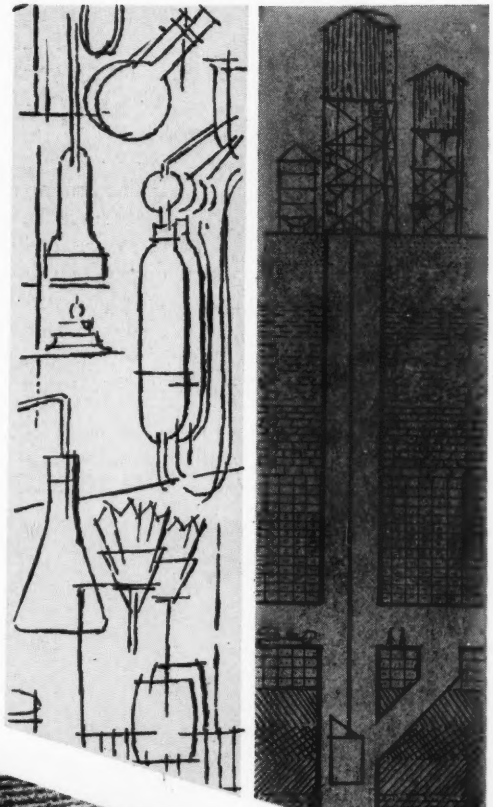
LOOK TO NATIONAL POTASH FOR QUALITY AND SERVICE

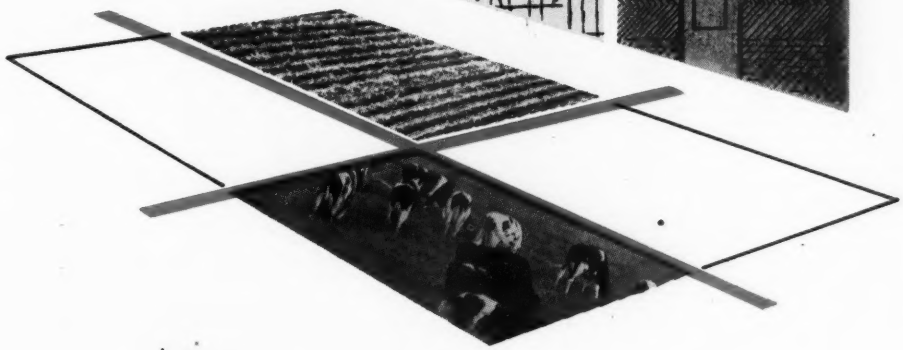


Backed by the skills and experience of its parent companies – Pittsburgh Consolidation Coal Company and Freeport Sulphur Company – NATIONAL POTASH offers important advantages as a dependable source of quality potash.

NATIONAL'S mining operations and refining processes will include the very latest industry techniques, and its storage and shipping facilities have been planned to meet efficiently the demand of the peak fertilizer season.

In addition, NATIONAL POTASH provides a free, comprehensive Technical Service to help manufacturers with granulation, formulation and other production problems. Write for complete information.





NATIONAL POTASH COMPANY
205 EAST 42nd ST. • NEW YORK 17, N.Y.

Diamond Comments On Pesticide Prices

The agricultural chemicals production cost-market price relationship remains a problem, despite modest progress already made, stated Diamond Alkali Co. in its 1955 annual report, adding that its distribution pattern had been broadened and solidified, which should aid in solving the problem.

"Production, distribution and profit ills which have plagued this industry the past few years are gradually being corrected and the position of the more efficient suppliers enhanced," it was reported.

For the future, the firm looks to additional cost reductions, more vigorous merchandising and aggressive promotion, increased selling efficiency and continuing research and development of new and improved materials as the means of further strengthening its competitive position.

Ozark-Mahoning Co. Opens Okla. Center

Opening of the Ozark Mahoning Co.'s new fertilizer distributing center at Claremore, Okla., was recently announced by Chas. T. Longaker, director of fertilizer sales. Olen Downing will be in charge of distribution at the center.

The firm reports that marketing procedures have been developed to assure fertilizer dealers of adequate margins throughout the year and are scaled to stabilize dealer earnings.

A complete line of high-analysis mixed and straight fertilizers, offered bagged, in trucks, and in box or hopper cars, is available through the new center.

Ozark fertilizer materials will be distributed through manufacturers and dealers in an eleven state area, according to Longaker.

Stauffer Expands Niagara Falls Plant

Stauffer Chemical Co. will spend a million dollars in expansion and modernization of its Niagara Falls, N. Y., plant.

About $400,000 of the total will be for additional facilities to manufacture 73 per cent caustic soda, while about $150,000 will be invested to increase output of chlorinated solvents.

The company has also announced plans to build a new sulfuric acid plant, which will cost about $2 million, at Dominquez, Calif. Construction was expected to begin this month, with full scale production scheduled early in 1957.

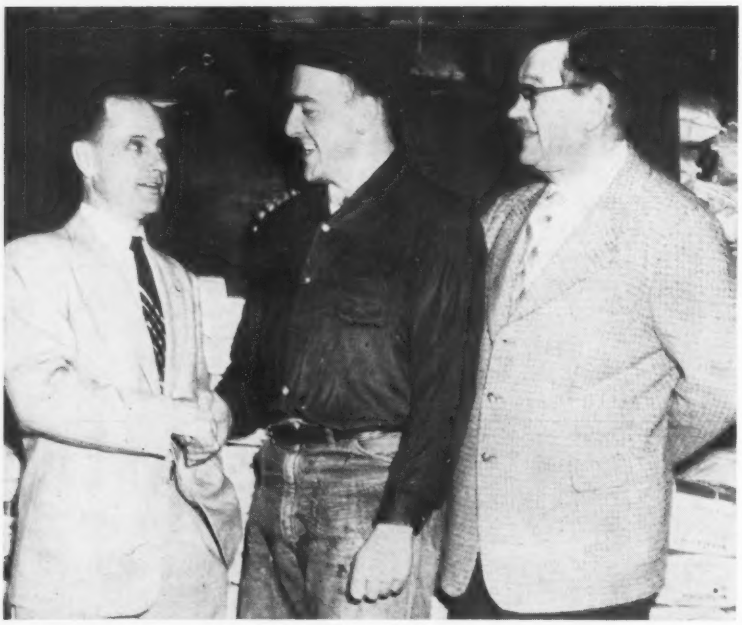
Spencer Henderson Works Adds N Units

New facilities for the production of aqua ammonia and concentrated nitric acid are being erected at Spencer Chemical Co.'s Henderson, Ky., works, says K. A. Spencer, president.

The aqua ammonia unit was scheduled for completion by May 1, and construction on the nitric acid facilities is expected to begin in October. Completion is set for about the first of next year.

The new units will produce up to a 68 per cent nitric acid as compared with the 55 per cent acid now made by the present units at Henderson. Nitric acid storage, blending, truck and car loading facilities will complete the project.

OM Award to Jr. Vegetable Grower



Stanley Pieczarka, Jr., (center), national winner of the National Junior Vegetable Growers production and marketing contest, received a ton of Ammo-Phos high analysis fertilizer for his achievement. He is congratulated by Dr. J. D. Campbell, agronomist with Olin Mathieson Chemical Corp., which provided the award, and Dr. G. B. Snyder, NJVGA advisor.

Meet The Demand For High Analysis

Use

DAVISON'S

TRIPLE

Superphosphate

State Agricultural Experiment Stations and other authoritative sources are recommending fertilizers with ever increasing plant food units per ton. High analysis fertilizers are in demand because they give more for each fertilizer dollar. Meet this demand by incorporating Davison's New Triple Superphosphate in your formulation.

Davison's Triple Superphosphate has 45/46% available P_2O_5 and is supplied in the easy-to-use granulated form or run-of-pile.

Order Davison's Triple Superphosphate. For complete information, call or write.

Progress Through Chemistry

DAVISON CHEMICAL COMPANY

Division of W. R. Grace & Co.

Baltimore 3, Maryland

PRODUCERS OF: CATALYSTS, INORGANIC ACIDS, SUPERPHOSPHATES, TRIPLE SUPERPHOSPHATES, PHOSPHATE ROCK, SILICA GELS AND SILICOFLUORIDES. SOLE PRODUCERS OF DAVCO® GRANULATED FERTILIZERS.

Pgh. C & C, German Pesticide Activity Into Chemagro Corp.

Farbenfabriken Bayer A. G., Leverkusen, Germany, and Pittsburgh Coke & Chemical Co. have announced consolidation of their respective agricultural chemical activities in this country and Canada into Chemagro Corp.

Chemagro was established in 1950 to introduce Farbenfabriken Bayer's new agricultural chemical products to the US farm market. Pittsburgh Coke acted as the principal manufacturing source for Chemagro and also marketed several of its products.

Complete integration of the two operations now enables Chemagro to operate as an autonomous organization with complete control of its own manufacturing, research and marketing facilities.

George W. Hill, Jr. will continue as Chemagro president. Other officers and management personnel include Herbert F. Tomasek, vice president; W. Scott James, assistant to the president; Dr. Robert C. Scott, director of manufacturing; Dr. Rosmarie von Rumker, director of research; Gordon M. Williams, assistant director of research; Hugh H. Swink, Sales Dept. director; and B. Thomas Snipes, Sales Dept. associate director. Pittsburgh Coke's agricultural chemicals sales and research staffs will be integrated with those of Chemagro.

Copper Deficiencies Measured by Fungus

A fungus is being used by the plant nutrition branch of the Western Australian Dept. of Agriculture as a short-cut in investigating trace element deficiencies. Used to measure the available copper in soils, the fungus is one often found growing on bread scraps.

About one fiftieth of an ounce of soil is mixed with a solution of sugar in which the fungus is growing. If there is a lot of copper in the soil, it soon develops a thick cover of black spores; if not, spores are colorless. The amount of copper available is determined by the degree of color.

AP & C Sales Force Meet, Tour Plants

Twenty-eight representatives from the US and London attended the recent 1956 annual sales meeting of American Potash & Chemical Corp. at Los Angeles. Members of the sales dept. met at Las Vegas, Nev., and toured the nearby Henderson plant, traveled by chartered bus to Trona, where they visited the main plant and heard speakers discuss the Trona facilities.

Members of AP&C's Sales Dept. learn about methyl borate manufacture from Ralph Vreeland, (left), plant engineer at the Los Angeles plant.

William J. F. Francis, vice president in charge of sales, presided over the meeting.

Diamond R Fert. Adds to Storage

Over 8,500 square feet of storage and truck loading facilities have been added to its Winter Garden, Fla., building by Diamond R Fertilizer Co.

The firm, which produced 3,000 tons of plant food in 1949, now with expanded operations, including delivery of bulk fertilizer to trucks, produces over 17,000 tons. The organization's annual payroll for the same period has increased from $20,000 to $75,000.

Dusenbury Named Uran Representative

New representative for Arcadian Uran liquid fertilizer is Dusenbury Limestone Products Co., Melvern, Kansas. Tanks have already been placed at Lyndon and Ottawa, Kans. and will soon be installed at Burlingame and Emporia. Manager of the nitrogen operation is Jon Patton, Lyndon.

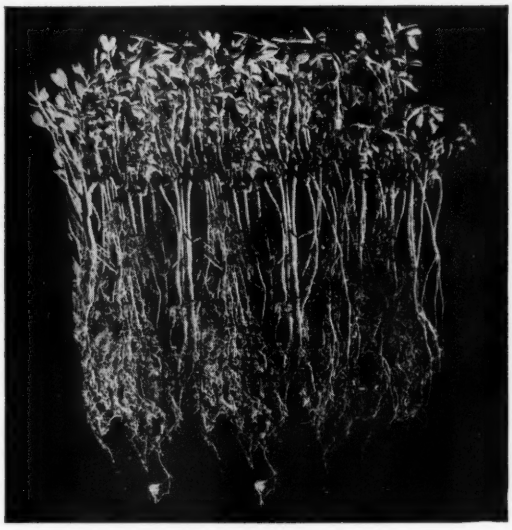
Shell Releases Four Aldrin Interviews

Shell Chemical Corp. has released to selected midwest radio stations a series of four recorded interviews featuring case history reports on the use of aldrin to control rootworm on corn. Don Lerch, farm reporter for Cornwell, Inc., conducted the on-the-scenes observations.

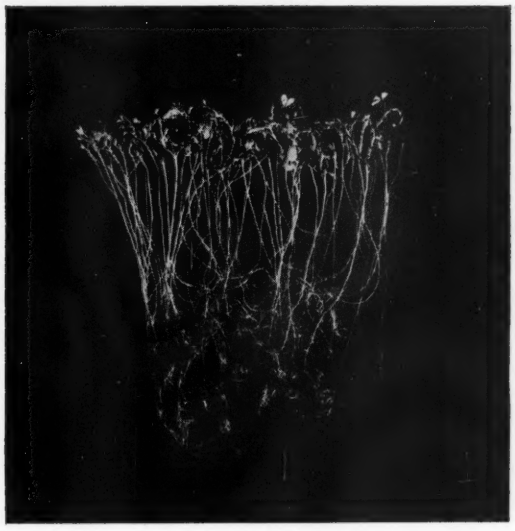
Merced, Cal., Site For Swift Plant

A liquid fertilizer and insecticide plant will be built east of Merced, Calif., by Swift & Co. if a land-use permit is approved by Merced County supervisors. Carl La Vo, Swift's Merced field representative for the past seven years, will be in charge of the facilities.

IN ALFALFA, POTASH-ENRICHED FERTILIZERS MAKE THE DIFFERENCE



with sufficient potash



without sufficient potash

It pays the farmer to enrich his soil with balanced fertilizers—pays him with healthy, vigorous, profitable crops. Potash, an essential element in these balanced fertilizers, fortifies plants against disease and increases both yield and crop quality.

USP's high-grade muriate of potash has the highest K_2O content and is free-flowing and non-caking—important advantages in the production of the balanced fertilizers which help American farmers to better crops and better incomes.

HIGRADE MURIATE OF POTASH 62/63% K_2O
GRANULAR MURIATE OF POTASH 60% K_2O MIN.

REG. U. S. PAT. OFF.

UNITED STATES POTASH COMPANY
INCORPORATED
30 Rockefeller Plaza, New York 20, N. Y.
Southern Sales Office
Rhodes-Haverty Building, Atlanta, Georgia

. . . Business & Management

Calspray Meeting Held in Nice, France

The Third International Orthocide Conference held in Nice, France, in November, sponsored by California Spray-Chemical Corp.'s European affiliates, was attended by 64 delegates from 18 countries.

Dr. Walter T. Reed and Dr. R. D. Wessell of Calspray's Research Dept. and M. E. Wierenga, manager of the Foreign Dept., represented the US at the meeting.

Pelleted Fert. from Texas Farm Prod.

The new Texas Farm Products Co. Nacogdoches, Tex., plant now is in full production, turning out pelleted fertilizer.

Davison Building New Md. R & D Laboratory

Ground was broken in March at the site in Howard co., Md., of the new research and development laboratory of Davison Chemical Co., which is scheduled for completion this year.

In a brief message, Marlin G. Geiger, president of the division, said that the site is located in a residential area equidistant from Baltimore and Washington.

"A comfortable and stimulating place in which to work is one of the means by which we seek to attract more men into professional careers in physics and chemistry. We are very greatly in need of such men, if we are not to fall behind Russia in our rate of technological expansion," said Geiger.

The laboratory will provide for 160 professional and supporting personnel. It will be three stories in height, with 52,000 square feet of total area.

Tyler Grain & Fert. Adds New Facilities

A new fertilizer plant is being built at Weilersville, O., by Tyler Grain & Fertilizer Co. Including a storage building, batching hoppers and granulation plant, the facilities are scheduled to be completed by July. D. M. Weatherly Co. is engineering the project.

N Div. Releases Solutions Picture

A new sound and color film, "How to Use Nitrogen Solutions," has been released by Nitrogen Div. Running 13½ minutes, it is being shown by nitrogen dealers and salesmen to vocational-agricultural groups, granges and other farm organizations.

Southwest Potash Schedules Expansion

A $2.5 million expansion program to increase Southwest Potash Corp.'s present capacity by about one-third will be completed this year, according to the annual report of the American Metal Co.

The company stated that both production and sales of the wholly owned SW potash subsidiary during 1955 were greater than in the previous year.

Whittington Heads Coastal Chemical

Mississippi Chemical Corp. president, C. S. Whittington, has been named president of the Coastal Chemical Corp., a new firm sponsored by MCC to build a farmer-owned high analysis fertilizer plant on the Mississippi Gulf Coast, according to recent reports. Plant construction is scheduled to begin this summer and stock sale is expected in June.

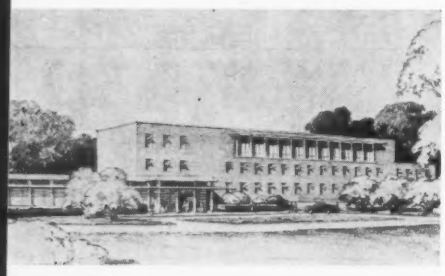
Cincinnati Agent For Cook Chemical

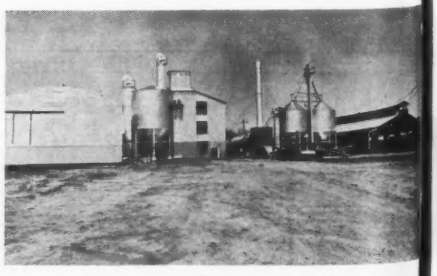
A three year contract as exclusive area sales agent for Real-Kill products of Cook Chemical Co. has been awarded John H. Voelker, head of the food brokerage firm of the same name in Cincinnati, O.

Waverly Pet. Unit For Fuller's Earth

A new plant to mine and process fuller's earth at Quality (near Meigs), Ga., has been put into operation by Waverly Petroleum Products Co. The area chosen for the plant is reported to have the richest deposits of the required mineral in the world. The mining tract, according to Waverly, has enough mineral reserves to last almost indefinitely at even greatly increased volume.

The plant was designed for easy expansion and fast materials handling by Raymond B. Ladoo, Newton, Mass., and J. T. Nash, Decatur, Ga.





Left: Davison research Lab.
Right: Waverly Pet. plant

With The *Kraftpacker*

Kraft Bag Corporation

hands you bag filling perfection on a silver tray!

ACCURACY

The Kraftpacker guarantees an 8 oz. plus or minus tolerance—but actually delivers a daily average closer to 4 oz.!

HIGH PRODUCTION

Plants with Kraftpacker installations report filling 18 to 22 80 or 100 lb. charges a minute, with one man hanging bags—and a daily average of 40 tons per hour, with 10 to 12 change-overs.

SIMPLICITY

No automatic open mouth bag filling machine of its type will handle free-flowing material easier than The Kraftpacker. Reduces packaging costs at an unbelievable rate.

ECONOMY

The Kraftpacker is a proved money-saver in every way—costs less to buy, less to install, less to maintain.

and . . .

with Kraft Bag Corporation's integrated 2-plant multiwall bag manufacturing facilities, you have *everything* you need for your packaging operation, from one dependable source!

Ask for representative . . . or brochure

KRAFT BAG CORPORATION

Gilman Paper Company Subsidiary

630 Fifth Ave., New York 20, N. Y.

Western Sales Office: Daily News Bldg., Chicago 6, Ill.

National Potash Co. Reports Progress

National Potash Co. is making good progress on the installation of mining and processing facilities at its potash deposit near Carlsbad, New Mexico. Roads, rail lines and utilities have been completed, and sinking of mining shafts and construction of surface installations are under way. Production is scheduled to begin in 1957.

Phosphate Expansion Planned by Victor

Plans are in the engineering stage at Victor Chemical Works for a further sizable expansion in its phosphorus and phosphate producing capacity. Central research facilities at Chicago Heights, Ill., will be increased 50 per cent, August Kochs, chairman, stated at the firm's annual meeting in March.

New Structure for Calspray of France

A change in the corporate structure of California Spray-Chemical Corp.'s French Subsidiary, California Spray-Chemical Cie. Française S.A.R.L. Co., as the subsidiary is known, will be converted into a "Societe Anonyme" with capitalization of 265 million francs.

The firm is building a $1.5 million plant in Southern France to manufacture captan.

Quarterly Mag. for Columbia-Southern

C-S CHEMICALS, a new quarterly magazine published by Columbia-Southern Chemical Corp., made its initial appearance in March. Purpose of the publication is to make the services, products, plants, facilities and people of Columbia-Southern better known to industry, education and general chemical interests.

Publication offices are at One Gateway Center, Pittsburgh 22. Members of the editorial board are C. F. Bingham, W. F. Newton and N. J. Ehlers. Norman L. Park is manager of publications for the firm.

Fire Destroys Terre Company Warehouse

The Terre Co.'s warehouse at Totowa, N. J., was reported destroyed by fire early in April. Fire Chief Elmer Wagoner said that although cause of the blaze had not been determined, there is a possibility of arson.

superior grinding equipment since 1891

BRADLEY PNEUMATIC HERCULES MILL

Provides a uniform grind from 20 to 325 mesh. Floor level installation provides easy accessibility . . . lowest installation and maintenance costs. Durable, non-clogging vibratory feeder for dependable, worry-free operation . . . even on material with some amount of moisture.

for Fine grinding of limestone phosphate rocks, etc.

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BRADLEY HERCULES MILL

From rough to finish in one low-cost operation. Automatic electric feed control eliminates manual operation. Rugged, dustless construction, maximum accessibility, keep maintenance costs at an absolute minimum. In sizes to meet any requirements at moderate cost.

For complete information, write for catalogs No. 61-62

Bradley PULVERIZER CO.

LONDON ALLENTOWN, PENNA. BOSTON

Extraction Plant for Kenya Growers

An extraction plant is planned by the Pyrethrum Board of Kenya at Nakuru with an initial capacity of 3,000 tons of flowers annually. For several years, a private corporation has operated an extraction plant at Nairobi, with a capacity of 2,000 tons of flowers annually.

Recently in the Belgian Congo a firm completed installation of equipment to produce, when in operation, extract from 900 tons of flowers yearly. The Societe Cooperative des Produits Agricole is reported studying plans to build a plant large enough to handle all the rest of its contemplated production.

Visitors Tour New Kingsbury Addition

More than 120 industrialists, financiers, agronomists and manufacturers recently viewed Kingsbury & Co.'s $250,000 plant addition at Peru, Ind.

Boxcars will be unloaded into hoppers, and endless belts transport the materials through the mixing, ammoniating, cooling and drying stages. Limited raw chemical storage is planned by the firm.

Lake Charles Port Adds More Silos

Marietta Concrete Corp. recently finished building four more of its precast concrete stave industrial silos at Lake Charles. These silos, 30 feet in diameter and 70 feet in height, are in addition to eight other Marietta silos of the same size, being used for storage of phosphate rock and barytic ore, which the firm erected last year for the Lake Charles Harbor and Terminal Commission. Similar materials will be held in the new silos.

Bayer Head Urges Brazil Pesticide Unit

Installation of a plant for production of insecticides, fungicides and herbicides in Brazil has been reported proposed by Professor Ulrich Haberland, managing director of Bayer Leverkusen, during negotiations with President Kubitschek.

Farm Chem. Sales Up for Olin Math.

Increases in both plant food and insecticide sales were reported by Olin Mathieson Chemical Corp. for 1955.

In its annual report, OM stated that new warehouses were established at a number of strategic locations including Chicago, Gulfport and Omaha, in order to provide more rapid delivery and better service generally to agriculture in these large fertilizer-consuming areas. At the end of the year, additional facilities for formulating insecticides were installed at seven widely dispersed locations.

Selfco NH_3 Center At Sandersville, Ga.

Sandersville, Ga. has been selected by Southeastern Liquid Fertilizer Co. as the site for one of its anhydrous ammonia distribution plants. Plant manager is C. F. Irwin, Jr., and service representative, Owen C. Lord, Jr.

Record Sales for Orkin Exterminating

Orkin Exterminating Co. reports its 54th year, 1955, ended with total gross sales of $15,684,-481.06—a 25.83 per cent increase over 1954 figures.

Atlantic Refining To Up NH_3 Output

Plans for expanding its Philadelphia manufacturing facilities to increase output of anhydrous ammonia from 100 to 175 tons per day have been announced by Atlantic Refining Co. This expansion will permit full utilization of the by-product from a newly planned Catformer.

Starr Named Rep for Trinidad Ryania

The Trinidad Ryania Corp., of Upper Montclair, N. J., has been established to promote use of ryania insecticides with Dr. Donald F. Starr as their representative in this country.

Program of the Trinidad Ryania Corp. includes the systematic harvesting of the ryania crop in Trinidad and increased availability and use of ryania insecticides.

Farmer Meetings Held by Umbaugh

Umbaugh Agricultural Chemical Co. and the Jasonville Industrial Bureau recently sponsored meetings for farmers designed to acquaint them with farm chemicals. Umbaugh planned to complete by April its $300,000 plant near Jasonville, Ark., which will be staffed with about 25 men.

Iraq Aids Jordanian Phosphate Project

A bill has been submitted by the Iraq Government to Parliament for allocation of a one million dinar loan to help Jordan finance its superphosphate and other development projects, as well as 625,000 Iraqi dinars, representing Iraq's contribution to the Arab League-sponsored Jordan potash project.

In just one year...

over ¼ million tons have switched

Round-the-clock production at Bonnie takes the push out of peak-season demands. Mammoth off-season storage capacity swallows up the seven-day-a-week production, stores it safely until you need it. And the industry's finest delivery schedules assure you high-quality triple when you need it.

International's natural curing helps you cut costs

• It's the natural curing process that gives you that "something-extra" quality of the triple super from Bonnie.

It helps you cut costs . . . gives you better control of manufacturing conditions and chemical reactions . . . stabilizes your formulation problems . . . and reduces the delivered unit cost of (P_2O_5). Here's what natural curing means to you:

Uniform particle size . . . for dependable ammoniation results.

Finer texture . . . for more complete ammoniation in every batch.

Stabilized product . . . for better chemical control.

Constant high analysis . . . with guaranteed minimum of 46% A.P.A.

Uniform high quality . . . for increased (P_2O_5) availability.

To guarantee this top quality triple from a plant as large as Bonnie required extra planning in plant design . . . extra capacity for a dependable supply . . . extra time to complete the five-week natural curing process . . . and extra care and quality control to assure uniform results in batch after batch.

This is the way Bonnie was built. And the results of the past year have proved Bonnie can deliver . . . Bonnie is dependable . . . and Bonnie can produce the kind of triple you want.

# of Triple Super Sales to Bonnie

The reason: | *trustworthy service and delivery plus superior results with International's natural-cured triple*

Yes, in a single year, International has zoomed to a top position as a supplier in the triple super industry. Here's why, in the actual words of Bonnie customers:*

Others have recommended you

"Several nitrogen producers have recommended your product to us because of its excellent ammoniation. They were right."

Missouri

You live up to delivery promises

"What we like about doing business with International is your service, particularly regarding delivery. Our material has always been shipped when requested."

Indiana

Your triple stores better

"Last September, we stored some of your triple next to competitive materials from two other suppliers. Six months later, the other two piles were set up hard enough to be blasted. Any lumps in your product could be broken with your fingers."

Minnesota

Your triple is a better product

"This is the best triple we have ever used for ammoniation."

Ontario

We get better ammoniation results

"We can put 600 lbs. of Urana 10 in with 1,400 lbs. of triple."

New York

Your Triple holds more nitrogen

"We have been amazed with the results. With a very high humidity we have been using 500 lbs. of nitrogen solution with 1,400 lbs. of your triple. Never before have we been able to get over 360 lbs. of this solution in the mix."

Maine

We save money with your triple

"We like the constant high analysis of your product. It aids us in formulation and reduces the unit delivered cost."

North Dakota

You meet delivery schedules

"We certainly appreciate the way International came through on schedule during the rush season."

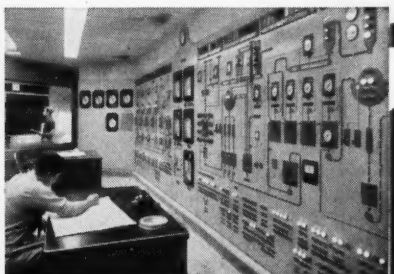
Arkansas

**names on request*

These are just a few of the reasons why this year, the big switch in triple super sales is to Bonnie — giant production facilities . . . prompt delivery . . . superior quality . . . and outstanding ammoniation results.

So this year, for a better product, and service you can depend upon, look to International Minerals & Chemical Corporation. You'll be glad you did.

This 85,000-ton curing unit — as big as two, full-sized football fields — is one example of the time and big capacity needed to produce natural-cured triple.



These "doodads" and dials get results . . . guard the uniformity and quality of every batch of triple super from Bonnie . . . help assure you of top results in ammoniation.

MINERALS International CHEMICALS

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

Phosphate Chemicals Division • General Offices: 20 North Wacker Drive, Chicago 6

PEOPLE

American Potash & Chemical Corp. Realignment of the Western Sales Dept. is announced. Ralph Hoh is named manager of soda ash sales; Trevor Steele, transferred to agricultural chemicals sales; and Frank McGrane named manager of western potash sales.

AP&C has appointed Dr. Thomas W. Clapper associate director of research.

Ashcraft-Wilkinson Co. James S. Greene, assistant agronomist for the National Plant Food Institute, left that organization April 20 to join A-W as sales representative in Minn., Iowa and Mo. A graduate of the University of Missouri, he is a statistician, general agronomist and had handled a major portion of the NPFI audio visual education program.

Greene

Atlas Powder Co. Separate industrial and public relations departments have been set up, with W. Spencer Thompson and George Loft as their respective directors.

A new department, headed by Kenneth E. Mulford, has been established to handle license, patent and trademark matters for all divisions and departments of the firm. Roger R. Horton is assistant director.

Two recent appointments in the Atlas Product Development Dept. Chemicals Div.—John W. Slaton to development representative, and Frank S. Black to the product development laboratory group.

California Spray-Chemical Corp. Dr. George W. Schmitz has been named research agronomist, with headquarters in San Jose, Calif., and Clemens M. Tomaszewski has been named sales representative at Long Island.

Commercial Solvents Corp. C. J. Watts, Jr., has been named southeastern district sales manager and will make his headquarters in a new office at 344 Williams St., N.W., Atlanta, Ga. Watts had been a sales representative for CSC in the South. The southeastern district includes Ala., Ga., Fla., N.C. and S.C.

Watts

d-Con Co. The March FARM CHEMICALS incorrectly stated that J. S. Garland had been named southeastern regional representative. Mr. Garland, president of the firm, announced that George Seville of Macon, Ga., had been appointed southeastern regional representative.

Davison Chemical Co. Virgil Paden, of Wheaton, Mo., has been named top salesman for the Mixed Fertilizer Div.

Diamond Black Leaf Co. Clyde C. Taylor has been appointed assistant plant manager at Richmond, Va.

Diamond Alkali Co. president, John A. Sargent, has been elected a director of The White Motor Co.

Dow Chemical Co. Four men have been named to key positions in the sales planning, sales development and education section of agricultural chemical sales. Hillard L. Smith, section head, is handling additional duties in connection with herbicides, insecticides and fungicides; John H. Prine is asssigned to market analysis and sales records, statistics and forecasts; Hollis E. Brower is responsible for fertilizers, chelates, veterinary and feed chemicals; and Earl M. Lutz provides technical assistance to Dow product distributors, salesmen and farmers on the use of space, grain and soil fumigants.

Dr. Robert G. Howe and Dr. Mark G. Wiltse have recently assumed duties as field specialists with Dow for development of agricultural chemicals.

Dr. Howe, working out of Dow's home office in Midland, will be primarily engaged in insecticidal and commodity and space fumigant projects in 12 mid- and southwestern states.

Howe

Wiltse

Dr. Wiltse joins Dr. Henry Gray as part of a two-man team in the East, with headquarters in Washington, D. C. His new duties will be primarily connected with vegetation and plant growth control projects, developing herbicides, defoliants and desiccants.

Escambia Bay Chemical Corp. Recently appointed assistant directors of research are Horace W. Boynton and W. Mayo

Boynton

Smith

SALESMEN... to help boost YOUR profits!

Beat the Cost-Price Squeeze!
each $1 properly invested in LION AMMONIUM NITRATE will return $3 to $4 on the average corn crop
LION OIL COMPANY
EL DORADO, ARKANSAS
Extra profits for you are
MIXED FERTILIZER

LION Advertisements Sell LION Nitrogen, *and* *Your Mixed Goods, Too!*

Continuous Lion advertising appears in leading farm publications, month-after-month, to pre-sell the Lion brand to farmers—and to sell the value of *your mixed fertilizers as well!*

Current advertisements are appearing in Farm and Ranch-Southern Agriculturist, Progressive Farmer, The Farmer, Nebraska Farmer, Kansas Farmer, Prairie Farmer, Wallace's Farmer & Iowa Homestead, Wisconsin Agriculturist and Farmer, Missouri Ruralist and Missouri Farmer. All of these advertisements are in color.

Each Lion advertisement promotes the economic benefits of properly using fertilizers, including Lion Ammonium Nitrate, to help increase the farmer's profits. Each advertisement sells *hard* on the importance of soil tests in the intelligent use of all commercial fertilizers. Lion, a leader in nitrogen production, leads the way to good fertilization practices . . . to better profits for you!

LION'S QUALITY LINE OF NITROGEN FERTILIZER MATERIALS

LION ANHYDROUS AMMONIA—82.2% nitrogen. Quality guaranteed.
LION AQUA AMMONIA—Ammonia content above 30%—other grades to suit your requirements.
LION AMMONIUM NITRATE FERTILIZER—Improved spherical pellets. Guaranteed 33.5% nitrogen.
LION NITROGEN FERTILIZER SOLUTIONS—Various types to suit your particular manufacturing needs.
LION SULPHATE OF AMMONIA—White, uniform, free-flowing crystals. Guaranteed 21% nitrogen.

LION OIL COMPANY
A DIVISION OF MONSANTO CHEMICAL COMPANY
EL DORADO, ARKANSAS

LION

DISTRICT SALES OFFICES: Lion Oil Building, El Dorado, Ark. • Insurance Exchange Building, Des Moines, Ia. National Bank of Commerce Building, New Orleans, La. • 1401 Building, Atlanta, Ga.

. . . People

Smith, Jr. Boynton, formerly with North American Cyanamid Ltd., will be in charge of engineering and fertilizer research, while Smith will head polymerization and plastics research and development. Smith goes to Escambia from Firestone Tire & Rubber Co. where he was senior research chemist and group leader.

Farm Chemical Resources Development Corp. E. F. Kindsvater was elected president of the firm at a recent board of directors meeting. The corporation was formed to mine and process potash on a 13,000-acre deposit in Lea and Eddy counties in southeast New Mexico. Kindsvater had been with Phillips Petroleum Co. since 1930, serving most recently as manager of its Rocket Fuels Div.

Hayes-Sammons Co. Larry E. Franks, Jr. has joined the Hayes-Sammons staff. The former agricultural agent for Willacy county will work with growers throughout the county as well as the central portion of the lower Valley from Weslaco to LaFeria.

International Min. & Chem. Corp. William Bellano has been appointed to the new position of director, mining and minerals exploration.

Lion Oil Co. Four appointments to the Development Dept.: Malcolm C. Lowe, Peter D. Burland and Charles L. McDaniel as group leaders; Mrs. Elizabeth Bailey as special clerk.

Miller Chemical and Fertilizer Corp. At a recent directors meeting, L. W. Cameron was elected president; Roger W. Cohill, vice president and general sales manager; W. D. Ashmore, treasurer; C. E. Carr, assistant treasurer; Howard F. Long, assistant secretary; W. D. Wilner and Frank R. McFarland, assistant sales managers. W. Newton Long, former president, and Thos. L. Smith, former vice president and general sales manager, have reached retirement age but will remain active on a part-time basis as chairman of the board and as sales manager of the Fertilizer Div., respectively.

National Plant Food Institute. Dr. M. S. Williams, specialist in charge, Ext. Farm Management and Marketing at N.C. State College, will become chief economist of NPFI beginning July 1. In his new position he will develop programs designed to focus attention on the economic value of using fertilizers properly.

Williams

National Potash Co. Newly named director of technical services is Richard D. Tayloe. A graduate of Lehigh University in chemistry, Mr. Tayloe has been associated since 1940 with Davison Chemical Co. In his position with National Potash, he will assist fertilizer manufacturers with formulation and production difficulties.

Tayloe

Niagara Chemical Div., Food Machinery & Chemical Corp. Larry G. Mayne has been named manager of the newly created Industrial Sales Dept. He goes to Niagara from Fairfield Div.

S. B. Penick & Co. Retirement of the firm's first employee in New York, Edwin L. Schneider, assistant secretary, recently was announced. He had been with the firm for 40 years.

Pennsylvania Salt Mfg. Co. of Wash. Donald E. Hope has been named agricultural chemicals district sales manager for Northeastern and Mid-Atlantic states. He formerly was ag. chem. sales representative in the eastern states.

Hope

Private Brands, Inc. On March 21, John Henry Mueller, 78, chairman of the board, died in Kansas City.

Southwest Fertilizer & Chemical Co. Calvin B. Parnell has been placed in charge of the Anthony, N. M. office.

Summers Fertilizer Co. Jonathan C. Baker has been named general traffic manager of Summers and Northern Chemical Industries, succeeding J. T. McDermott, who becomes manager of office sales of both companies at Baltimore. H. Wakefield McGorrill has been named assistant traffic manager.

Baker

Baker, who will headquarter at Baltimore, goes to Summers from G.L.F. Exchange where he served as assistant traffic manager.

F. W. Tunnell & Co. F. H. Tunnell, 70, board chairman, died on March 26 in Fort Lauderdale, Fla.

Virginia-Carolina Chemical Corp. Former Governor John S. Battle has been elected a V-C director.

Are you using

OUR IMPROVED

DUVAL

Muriate of Potash ?

• HIGH ANALYSIS
• IMPROVED PHYSICAL CONDITION

DUVAL SULPHUR and POTASH CO.

Modern Plant and Refinery at Carlsbad, New Mexico

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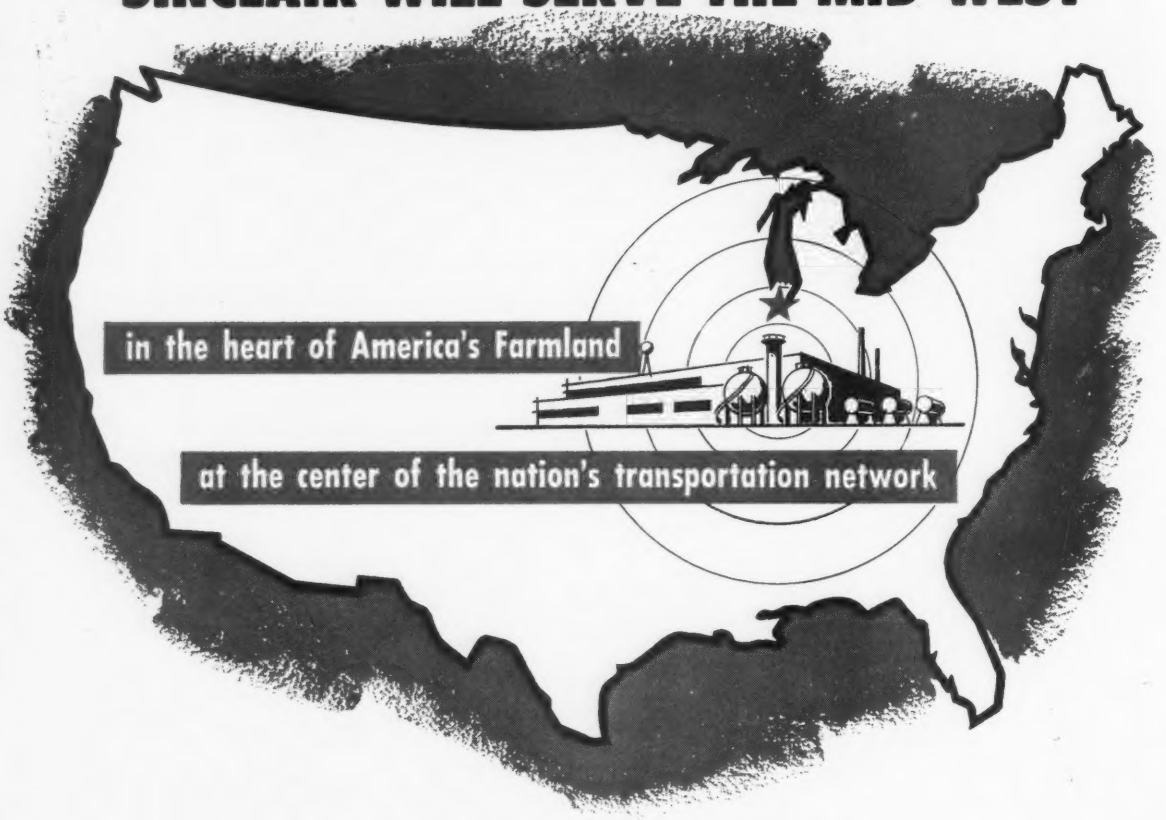
A new source for nitrogen chemicals

SINCLAIR WILL SERVE THE MID-WEST



Strategically located in Hammond, Indiana, this ultra-modern plant will soon be on stream – producing high purity anhydrous ammonia and nitrogen fertilizer solutions for agriculture and industry.

The central location of this plant is of prime importance to you. It means *fast, low cost delivery* of your nitrogen needs via Sinclair's fleet of tank cars and tank trucks. Moreover, vast storage facilities will enable Sinclair to supply you with top quality products during your busiest periods.

For further information about how this new plant can meet your nitrogen supply problems, phone or write . . .

SINCLAIR CHEMICALS, INC.

(Affiliate of Sinclair Refining Company)

600 Fifth Avenue, New York 20, N. Y. • Phone Circle 6-3600
155 North Wacker Drive, Chicago 6, Illinois • Phone Financial 6-5900

GOVERNMENT

Two Field Posts For TVA Workers

TVA reports that in order to work more closely with cooperating distributors and mixers of TVA fertilizers, land-grant colleges and other public agencies, two members of its Fertilizer Distribution Branch have been assigned to field posts. L. Page Johnson is headquartered at Little Rock, Ark., and John E. Wiley at St. Paul, Minn.

USDA Sees too Many Spuds in '56

Reports from farmers to USDA on March 1 regarding their plans for the 1956 season indicate the probable production of too many late-crop potatoes, the department states.

The intentions-to-plant report indicates that acreage will be reduced only 2.8 per cent from the 1955 level, while USDA suggested that the acreage planted should be 8 per cent less than last year for the country as a whole.

Continued Rise in CCC Corn Support

Corn support total continues to climb at a record pace and through March 15 reached 341,203,251 bushels under loans and purchase agreements, according to a USDA report.

This is the fourth consecutive 30-day period during which the quantity of corn put under support has been substantially larger than a year earlier.

USDA said that its sales policy for CCC-owned corn will be continued except for such changes as may be needed to prevent any adverse effects on the price support program for corn.

CCC-owned storable corn will continue to be offered for domestic or export sale only at a price equal to or above the statutory minimum price for domestic sales. In the commercial corn area, the minimum is 105 per cent of current support price plus reasonable carrying charges. Non-storable corn will continue to be offered for sale at country points at the going market for such corn.

Robt. H. Reed to Netherlands Post

Robert H. Reed has been appointed the USDA agricultural attache for the Netherlands. He is scheduled to leave soon to take up his post in the U.S. Embassy at the Hague where he will succeed George Deitz, who is now engaged in international trade work for the American Farm Bureau Federation. Reed had been editor of COUNTRY GENTLEMAN.

ICA Appoints New Investment Adviser

The International Cooperation Administration has appointed George F. Spaulding, an investment banker of Phoenix, Ariz., as an investment adviser to the Federation of Rhodesia and Nyasaland in Central Africa.

ICA Authorizations

Bolivia. $30,000—agricultural pesticides (PA No. 11–236–99–A1–6002). Contract period: March 29 to June 30. Source: USA & poss. Terminal delivery date: August 31.

$37,200—fertilizers (PA No. 11–99–A1–6003). Includes nitrogenous fertilizer, $12,000; potash fertilizer, $1,200 and phosphatic fertilizer $24,000. Contract period: March 29 to June 30. Source: World wide. Terminal delivery date: August 31.

Cambodia. $125,000—phosphatic fertilizers (to page 36)

Food & Drug Anniversary Seal

This seal marks the 50th anniversary of the Federal Food, Drug and Cosmetic Laws. The anniversary celebration is to be held on June 27 at the Mayflower Hotel, Washington, D. C., and the Association of Food and Drug Officials will hold its 60th annual conference in the Hotel New Yorker, New York City, during the week of May 6.

With PENNSALT'S *Original*

"EUTECTIC"* PROCESS

1 + 1 = 3

*U. S. Patent Pending

PENNSALT originated the "EUTECTIC" PROCESS which many progressive cotton dust producers are using. The process offers an improved technique in the preparation of BHC-DDT cotton dusts and concentrates. It gives highly effective and uniformly impregnated type dusts with a minimum amount of milling or grinding.

PENCO DDT Technical, plus PENCO High Gamma BHC Technical, equals "EUTECTIC'S" Big 3 . . . superior quality — lower production costs — operating flexibility.

It is called the "EUTECTIC" PROCESS because the two components—BHC Technical and DDT — together have a melting point lower than either individually. This means less heat needs to be applied to melt the two ingredients. When melted, the "EUTECTIC" mixture is well adapted to volumetric measurement or rapid, accurate weighing methods—ideal for high producion. This mixture will supercool, will not solidify at room temperature for at least 24 hours. It remains liquid long enough to permeate the whole mass of the absorbent carrier, resulting in a dust of exceptional uniformity and quality.

PENNSALT'S High Gamma BHC Technical is ideal for use in the "EUTECTIC" process. Typically, it contains 46% of the gamma isomer of BHC. Write today for our new Technical Bulletin No. A-7, describing this product and its unique physical properties.

PENCO DDT—U.S. Pat. 2,491,160. PENCO High Gamma BHC—U.S. Pat. 2,569,677. PENNSALT "EUTECTIC" Process—U.S. Patent Pending.

PENNSYLVANIA SALT MANUFACTURING COMPANY OF WASHINGTON

TACOMA, WASHINGTON

Aurora, Ill. • Montgomery, Ala. • Portland, Ore.
Berkeley, Calif. • Bryan, Tex. • Los Angeles, Calif.
Philadelphia, Pa.

Pennsalt Chemicals

There's a Better Field for Profits

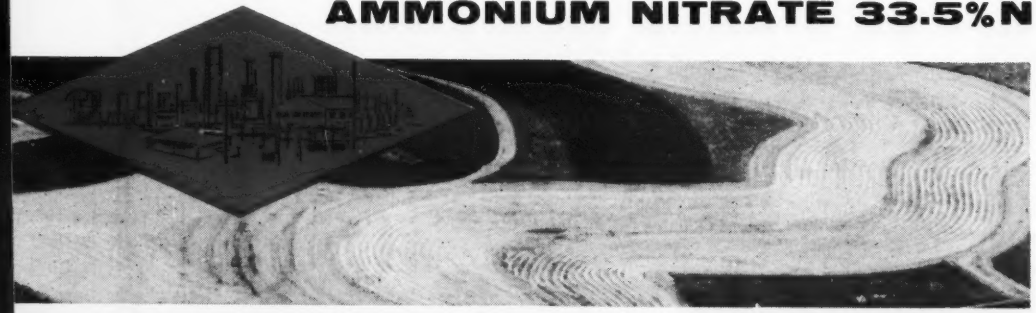
AMMONIUM NITRATE

There's a Better Field for Profits

with STEAMBOAT BRAND

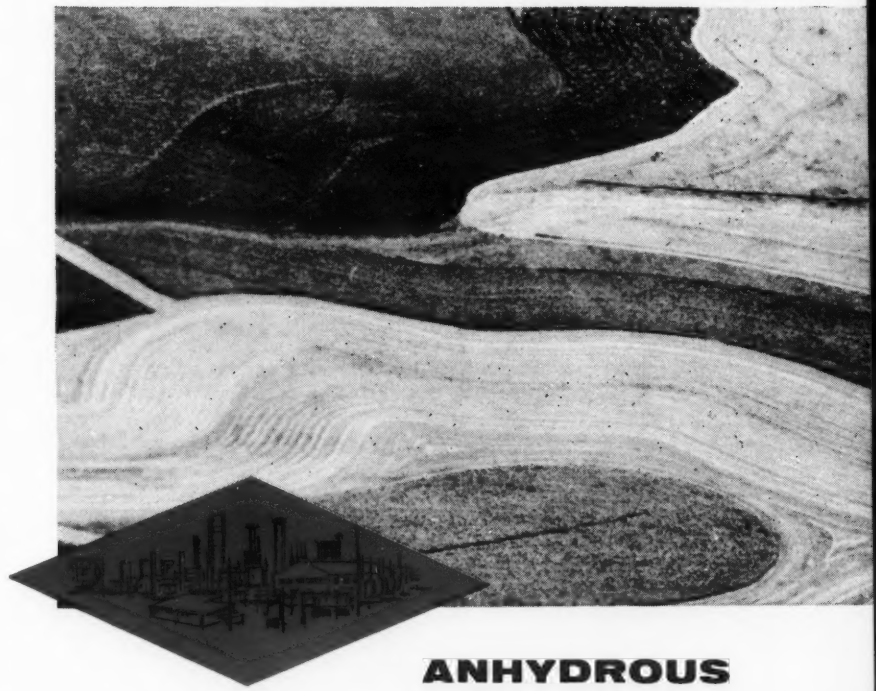
In the field of nitrogen fertilizer sources, the new Mississippi River Chemical Company plant offers manufacturers every possible assurance of quality, uniformity and dependability. With these prime requisites comes further assurance of reliability and service in the complete satisfaction of your every need through the years of experience offered by Bradley & Baker. Whatever your requirement may be – immediate or seasonal – you can be sure when you rely on Mississippi River Chemical Co. nitrogen products.

AMMONIUM NITRATE 33.5%N



MISSISSIPPI RIVER CHEMICAL COMPANY
A Division of Mississippi River Fuel Corp., St. Louis, Mo.

AMMONIUM NITRATE SOLUTIONS



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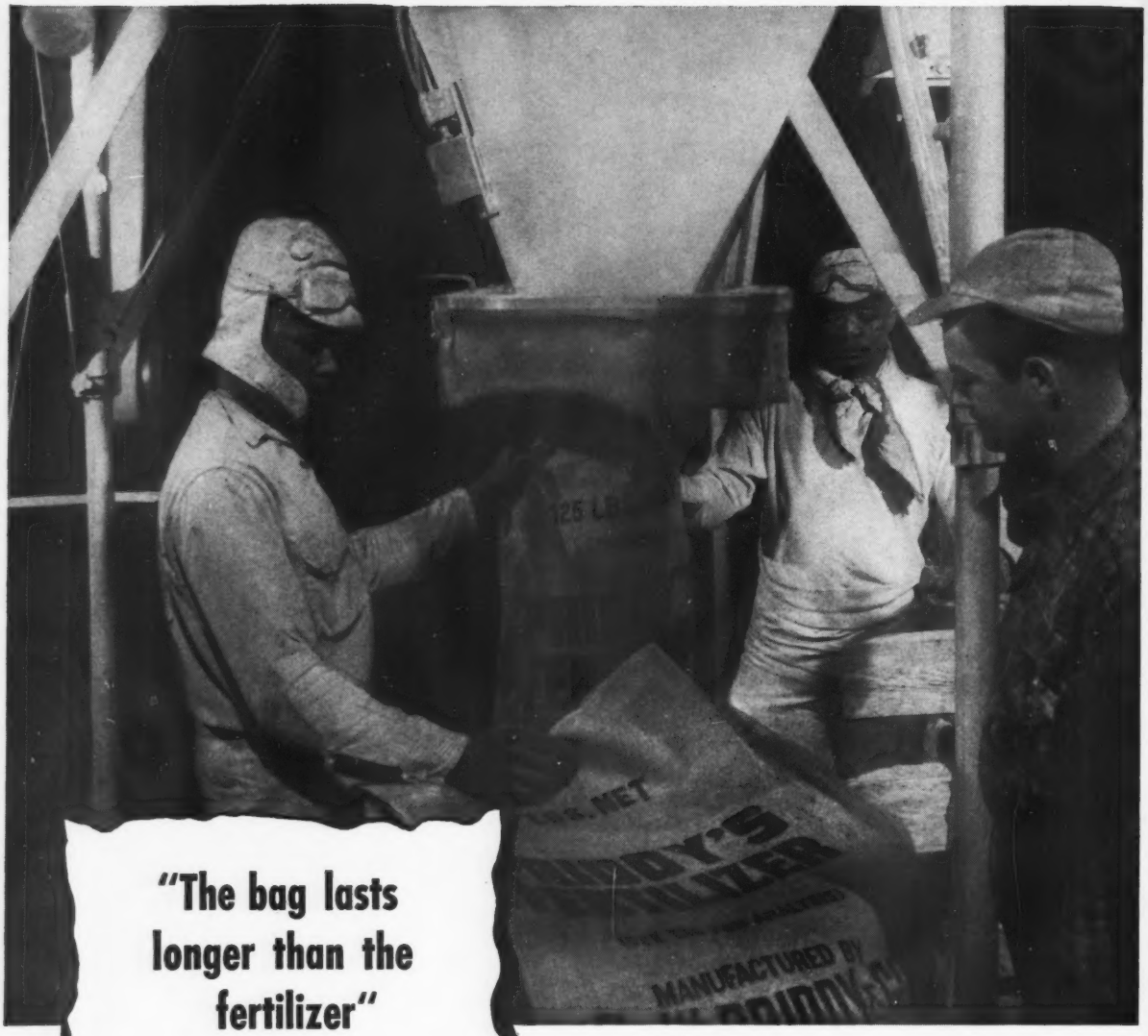


"The bag lasts longer than the fertilizer"

says Sydnor Y. Priddy, president of Charles W. Priddy & Co., fertilizer manufacturers of Norfolk, Virginia. "Farmers want their fertilizer in burlap so they can use the bags to pack their own produce after they've used the fertilizer. Burlap bags have more uses around a farm than you can name.

"We know that burlap is safer for shipping fertilizer than any other kind of bag. No matter how they go—by train or truck, they won't chafe, break or tear."

Pack your fertilizer in burlap bags for easier handling in the plant and better protection during shipping. Use "bag appeal" to sell more fertilizer to farmers in your area.

Just ask your own customers—

they'll tell you that burlap

Is strong — takes dragging, dropping, *man-handling* — any tough job on the farm.

Gives good ventilation — keeps farm supplies and products fresh.

Laughs at sudden showers — wetness or dampness can't weaken it.

Saves money — extra value from re-sale and re-use.

Saves storage space — stacks to any height without slipping.

Has 1000 uses — always in demand on the farm (popular with farm wives, too!)

THE BURLAP COUNCIL

of the Indian Jute Mills Association

155 East 44th Street, New York 17, N. Y.

VIEWING WASHINGTON

with Farm Chemicals Washington Bureau

on agriculture

Odds favor Soil Bank payments to farmers this year . . . even though the program may not go into full operation until 1957. Administration officials confide that if Congress fails to provide special legislation—following veto of the catch-all farm bill—the Agriculture department will go ahead with broad authority now on the books.

Payments would be advances this summer to farmers for participation on next year's crops amounting to half of the full payment contracted for the practices, with the balance upon compliance next year.

This idea, advanced by the President, has found wide acceptance in and out of Congress and across the country. Payments would cover planned new conservation practices next year and rental of land simply taken out of production. Purpose of launching it this year is to reduce the 1957 wheat crop which goes into the ground this fall.

If Congress fails to approve the Administration program, the President is expected to demand—and probably will get—a special appropriation this year of nearly $1 billion to make payments under current authorization. Machinery used would be the regular ACP.

Net farm income in 1956 will be lower than last year, says USDA's Outlook Board, despite the President's emergency action.

Income this year is forecast at $10.3–$10.4 billion including the effects of higher price supports ordered by Ike. This compares with net farm income of $10.8 billion in 1955. USDA economists point out that restoration of 90 per cent parity as called for under the vetoed bill would have reversed the four year decline with income over $11 billion. Without Ike's support increases, income would be closer to $10 billion.

Here's how Ike boosted supports for this year: USDA had set corn supports at $1.40 a bushel in the commercial area. Ike boosted it to $1.50. The wheat rate was set at $1.81 a bushel. Ike upped it to $2. The rice rate was $4.06. Ike increased it to $4.50 a hundredweight. Meanwhile, USDA announced that 1956 cotton would be supported at 28.85¢ a pound, compared with about 33¢ last year.

Fertilizer sales programs in the Midwest are expected to get a new Federally-sponsored hook this year. USDA is setting up a new program, ordered by the President, which would permit all farmers to over-plant corn acre allotments and still get price supports.

In an effort to soften the veto blow, Ike ordered USDA to set two support levels in the commercial corn area. One is $1.50 a bushel for farmers who stay within allotments—the other is about $1.25 for growers who overplant. This is precedent-shattering—never before has the government shown such favor to farmers who ignore controls.

Price supports for oats, barley, rye and grain sorghums are expected to be increased over previously-announced 1956 levels. When the 1956 corn support was upped 10¢ a bushel, Federal officials say, it pulled the price relationship between the four lesser feed grains and corn out of kilter. To bring this back into line, they believe supports for the others will be increased from current 70 per cent of parity to 75 per cent—a boost of 5¢ a bushel for oats, 7¢ for barley, 9¢ for rye and 13¢ for grain sorghums, a hundredweight.

VIEWING WASHINGTON

on business

Inflation fears bring on new Federal restraints—but these reins will be handled gingerly, say officials. If they tend to hurt business, they confide, controls will be relaxed but more economy management is needed now to head off a spiral. Along with the move to raise rediscount rates on banks, forcing interest rates up, plans include steps such as open market activity to hold money and credit supply below rising demand.

Biggest government concern now is speculation. Aim is to head off unbridled speculation before it begins to hurt the national economy. Danger signs they point to include a fast rise in the stock market, increasing raw material prices, soaring business and personal credit demands, and increasing inventories in anticipation of higher costs later.

Talk of war in the Middle East and possible US intervention feeds inflation tendencies. It spawns thoughts of Korea and leads to thoughts of stockpiling items which may be scarce if we're involved.

The gigantic 13-year road-building program, which promises a bonanza for fertilizer sales, now is expected to clear Congress before July 1. At press time, the House prepared to vote on the biggest public works program ever presented Congress, with passage predicted. The Senate generally is expected to go along with the House version.

The measure calls for Federal-state expenditures of $51.8 billion over the next 13 years to complete a 400,000 mile interstate network of super-highways and improve the Nation's primary and secondary roads. It calls for Federal outlays of $37.6 billion over the period—triple the present rate. The states would build the roads and pay $14.3 billion.

The measure combines bills to authorize the construction job and to lay-out the method of financing. The huge program would be financed by taxes extending over a 16-year period. The Federal tax of 2¢ a gallon on gasoline and other motor fuel would be boosted to 3¢. Tires would be taxed at 8¢ a pound instead of the present 5¢. Excise on trucks, buses and trailers would be raised from 8 per cent of the manufacturer's price to 10 per cent.

In total, the new program represents an increase of almost $29 billion over the current rate of Federal and state road expenditures.

A Federal survey of elemental phosphorus productive capacity shows that expansion completed in 1955 plus facilities under construction will bring total annual capacity to 383,000 short tons by July 1, 1957.

Annual capacity as of Jan. 1, 1955 was reported at 320,000 tons—almost double that in existance on Jan. 1, 1951, and exceeding by 45,000 tons the expansion goals set by the ODM for completion in 1955—according to the Chemical and Rubber Div., BDSA survey.

Largest use for phosphorus by far, primarily as sodium phosphates, is in soaps, detergents and sanitizers. This category accounted for an estimated 44 per cent of total distribution in 1955.

Second largest consumption, of course, is in fertilizers and, said BDSA, is accounted for largely by TVA production of concentrated superphosphate, calcium metaphosphate and other phosphatic materials.

The proportion of total phosphorus distributed for fertilizers declined from 17.3 per cent in 1954 to 15.8 per cent in 1955, primarily a result of a cutback in TVA's use for fertilizers. Distribution reported by private producers of phosphorus for fertilizer use increased from 17,000 in 1954 to 21,860 tons in 1955—or from 6.5 per cent to 7.8 per cent of the total.

Chemicals

142—National Potash

Next year a new source of K, National Potash, will begin marketing operations. The company, formed by Freeport Sulphur and Pittsburgh Consolidation Coal, will produce a free-flowing high K_2O material in a variety of screen sizes, backed by top service and quality. For complete information on the program of this newest company in the field

CIRCLE 142 ON SERVICE CARD

143—Nu-Iron Compound

An economical compound, Nu-Iron, is now offered by Tennessee Corp. for correction of iron chlorosis and for stimulation of plant growth. Easily applied as spray or dust to the foliage it is compatable in mixtures or combination applications with common spray or dust materials. Safe to foliage, it is not affected by soil *p*H and has excellent storage stability and shelf life. Data and prices are available to formulators, distributors and repackagers.

CIRCLE 143 ON SERVICE CARD

144—Selling Liquid Mixes

This year Monsanto Chemical is sponsoring the first nationwide promotion to sell farmers on advantages of liquid mixed fertilizers. The company is offering, to users of Monsanto phosphate fertilizer solution, a variety of selling aids—direct mail leaflets, ad mats, TV and radio scripts, all-weather road signs, truck and equipment decals and liquid fertilizer booklets, for your prospects. If you want details on this promotion

CIRCLE 144 ON SERVICE CARD

145—Inexpensive Conditioner

Fur-Ag, the sterilized, inexpensive organic fertilizer conditioner, reduces bag set, promotes drillability and speeds curing in the pile. Produced in volume by Quaker Oats it is shipped on schedule throughout the year. Its dark color, says the company, makes a rich-looking mixed goods. For complete information

CIRCLE 145 ON SERVICE CARD

146—BHC in Pellets

Newest in the line of Stauffer products for formulators is technical BHC in pellets. Made specifically to solve grinding problems common to other BHC concentrates, the pellets grind down easily without gumming or sticking. The only 24 gamma technical material available, the pellets will improve your production and product quality. For complete information

CIRCLE 146 ON SERVICE CARD

147—Methyl Bromide

This fumigant is now being produced at Newark, N. J. by Kolker Chemical for sale through distributors. Packaging is in one-pound cans with 2 per cent chloropicrin as a warning agent and 125, 150 and 450 pound cylinders of 100 per cent methyl bromide. For more information

CIRCLE 147 ON SERVICE CARD

FREE INFORMATION to help you solve fertilizer, pesticide problems

Reader Service

148—Thimet Systemic

This season American Cyanamid is introducing Thimet, a new systemic insecticide that controls early-season cotton pests without sprays or dusts. Applied to the seed before planting it protects the plant itself against insect damage during early weeks of growth. For the first 4 to 7 weeks it will control thrips, aphids and spider mites, the pests that are most damaging to young plants, and eliminates the cost and time involved in applying the 2 to 4 sprays usually required for control. If you want more information

CIRCLE 148 ON SERVICE CARD

How to use the

READER SERVICE CARD

- **Circle number of literature you want.**
- **Print or type your name, position, company and address.**
- **Clip and mail the Service Card.**

149—Absorbent Clay

Pikes Peak absorbent clay, says General Reduction, has consistently uniform characteristics that help build more quality into your product. Features include *p*H of 5 for a top compatibility factor, high absorption qualities to assure smooth grinding and even impregnation, extremely fine grind (guaranteed 95 per cent through 325 mesh) with other sizes to meet your needs and free flowing qualities for quick, uniform impregnation. Full technical details are available.

CIRCLE 149 ON SERVICE CARD

150—Heptachlor & Ferts.

For greater sales, suggests Velsicol, take advantage of the growing demand for pesticide-fertilizer mixtures and push Heptachlor-plant food combinations. The firm offers a technical bulletin explaining new, simpler, lower cost mixing methods.

CIRCLE 150 ON SERVICE CARD

151—Vancide Fungicide

This year Niagara Chem. Div. is marketing Vancide, its new fruit fungicide in two formulations—"A" for early season primary scab control on apples and "M" for season long use to control scab and other diseases especially on russet-susceptible varieties. Both are easy-to-handle wettable powders, compatible with all insecticides. Vancide can be used on all apple varieties including Red Delicious, Baldwin and others that have been susceptible to injury by some fungicides, and the material is said to help produce fruit of the highest color and finest finish. For literature

CIRCLE 151 ON SERVICE CARD

Process Equipt.

152—Liquid Fertilizer Plants

Midstate Machinery offers you everything you need to manufacture and sell liquid mixed fertilizers in a complete package. Included is all of the equipment, training, chemical formulas, cost data, sources of supply and merchandising aids. Three separate liquid mixing plants are available to fit your specifications. For a folder describing the Midstate program and plants

CIRCLE 152 ON SERVICE CARD

153—Aqua Ammonia Converters

A recently issued J. C. Carlile brochure describes the firm's Carlile converter for continuous production of aqua ammonia. Designed to serve the liquid fertilizer field these units are ruggedly constructed and engineered for long term service. They are produced in a complete range of sizes.

CIRCLE 153 ON SERVICE CARD

154—High Speed Weigh Feeder

Combining accuracy and ruggedness, Omega's Model 37-20 Hi-Wight weighing feeder is designed to serve the need for a medium to high capacity dry materials feeder in batch or continuous formulating. It has a feed rate of over 3000 lbs./min., mechanically senses and corrects the slightest weight deviation, includes a built-in sampling gate and has a non-flood rotor. Hopper agitation varies with feed rate for maximum efficiency. A bulletin has full details.

CIRCLE 154 ON SERVICE CARD

Materials Handling

155—Three TractoLoaders

Tractomotive Corp. produces a line of TractoLoaders to fit all bulk handling jobs—the highly maneuverable TL-6 for fast handling in confined areas, the TL-10 for big capacity, general purpose use and the TL-12 designed for excavating-loading. Features on all three include double filter protection for the hydraulic system, heavy bucket construction, unit construction of power train, torque converter, low pressure hydraulic system and replaceable pins and bushings at pivot points in the shovel assembly. For a 12 page booklet describing these units

CIRCLE 155 ON SERVICE CARD

156—Os-A-Veyor Feeders

Simplicity Os-A-Veyor feeders feed along their entire length allowing for use of larger bins. The units can be bin-hung or may be spring mounted. Equipped with replaceable liners, they can be provided with grizzly or screen sections, one or two decks and can be totally enclosed. For further information

CIRCLE 156 ON SERVICE CARD

157—Roller Type Holdback

Reversal of belt conveyors and bucket elevators won't occur when there's a power failure—if you are equipped with Stephens-Adamson roller type holdbacks. The units mount on the headshaft and will handle torque up to 500,000 inch-lbs. Available in 11 shaft sizes, they include a self aligning feature that eliminates mounting difficulty. To get a descriptive folder

CIRCLE 157 ON SERVICE CARD

158—New Bearing Catalog

The Chain Belt line of Shafer self aligning roller bearings are described and illustrated in a new 72-page catalog. Specifications and data pages are included on all models of Shafer units with completely revised engineering data, new load rating tables and exploded views for parts identification. The various models have shaft sizes ranging from ¾" to 7". To obtain a copy

CIRCLE 158 ON SERVICE CARD

159—Transfer Conveyors

A new Barber-Greene folder on its transfer conveyor shows how you can figure your own horsepower and belt width in short order. The conveyor, capable of handling nearly all bulk materials, is available in lengths from 8 feet and in 18, 24 and 30 inch widths. For a copy

CIRCLE 159 ON SERVICE CARD

160—DragScraper Machines

Full details and specifications on Sauerman Bros.'s DragScraper machines are contained in a new catalog. Various sections cover standard installations from ¼ to 3 cu. yd., rapid shifting units and track cable machines and tower excavators. Pages of job photos and typical layouts illustrate the various items.

CIRCLE 160 ON SERVICE CARD

Packaging

161—For Top Bag Filling

Fast, accurate, economic filling of open mouth bags is offered by the Kraftpacker. An 8 ounce plus or minus tolerance is guaranteed but actual delivery on a daily average is closer to 4 ounces and plants have reported filling 18 to 22, 80 or 100 lb. charges a minute with one man hanging bags. For a brochure

CIRCLE 161 ON SERVICE CARD

162—Economic Bag Closing

Model ET Bagpacker from International Paper closes 15 filled bags a minute and is easily adjusted to bags from 25 to 100 lbs. A completely portable unit, it ties in with existing filling and weighing equipment to give semi-automatic, sift-free, economical bag closing with the Bagpak cushion stitch. Coasting is prevented with an automatic brake on the Hoepner No. 150 heavy duty sewing head. For details and drawing

CIRCLE 162 ON SERVICE CARD

163—Package Design

A well-planned multiwall design, says Hudson Pulp & Paper, can carry real sales impact. If your present labeling could use some review, Hudson would like to send you full information on its design service with before and after comparisons of multiwalls that sell.

CIRCLE 163 ON SERVICE CARD

164—Shipping by Air

Hinde & Dauch has issued a revised edition of its 24-page booklet on How to Ship by Air in Corrugated Boxes. Included is information on international shipments, responsibility for damage, carrier restrictions and load limitations. Data on the adaption of corrugated boxes and other packaging materials for air transport is also contained. For a copy

CIRCLE 164 ON SERVICE CARD

165—Weight Checking

Set the desired weight and tolerances on the dial of a Thayer Checkweigher and overweight and/or underweight packages are automatically rejected. Remote weight indication is provided and proof of delivery weight is printed for up to 20 packages per minute. The guaranteed shock-proof Thayer-Plate leverage system has no knife-edge pivots. For engineering information.

CIRCLE 165 ON SERVICE CARD

Application

166—The Pollard Line

Included in the Pollard Mfg. line of nitrogen equipment are six types of applicators and a 4-wheel wagon designed for a 1,000 gal. nurse tank. The applicators are equipped with heavy gauge aluminum tanks, a completely non-corrosive system, fast ball hitch coupler and a rugged frame and tool bar. They offer adjustable ground wheel spacing and full-time 26" high clearance. Distributors can obtain information and prices.

CIRCLE 166 ON SERVICE CARD

167—Hand Pumps

Nitrogen solutions distributors will be interested in the Tokheim high-vacuum hand pump designed to handle non- and low-pressure materials. It is termed appealing to farm users because of the convenience and economy offered in transferring solutions from bulk storage to applicator. Equipped with stainless steel shaft and valves it has a flexible diaphragm of rubber-molded synthetic material. For descriptive literature

CIRCLE 167 ON SERVICE CARD

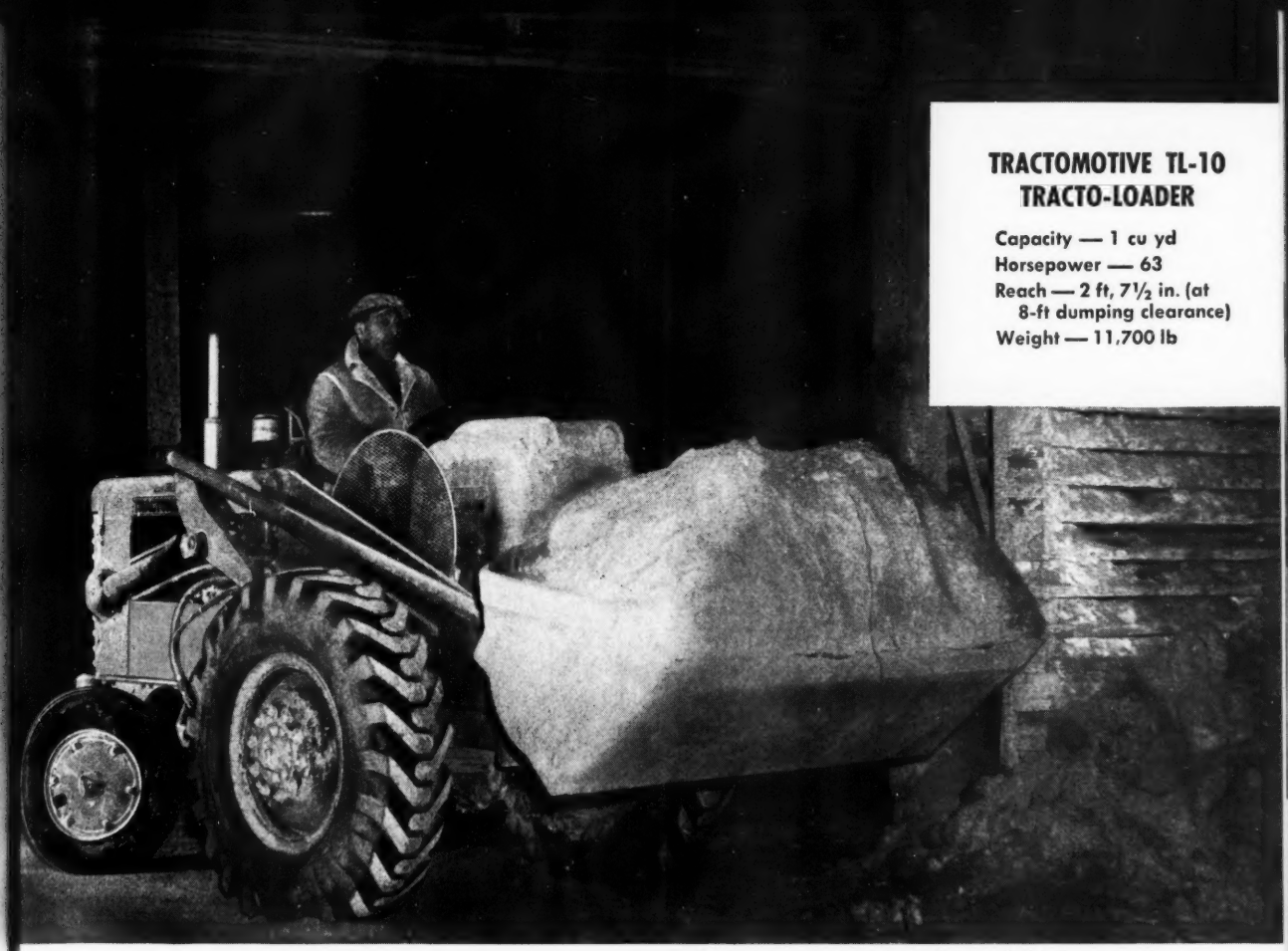
168—Save with Bulkmobile

Baughman Mfg.'s automatic self-unloading Bulkmobile is designed for the high speed, labor-saving transportation of fertilizer, lime, feed and other materials. Available in sizes from 15' to 33' it discharges from ½ to 2 tons of material per minute, has a compartmented body for delivery of multiple loads and offers fully hydraulic operation of body conveyor and discharge accessories. Four methods of discharges can be specified—belt conveyor, screw conveyor, belt and bucket elevator and single or double distributor. For an illustrated, descriptive folder

CIRCLE 168 ON SERVICE CARD

See pages 56, 58, 59 for information on these Reader Service numbers—

169—N-Dure Solution
170—HO Payloader
171—Nauta Mixer
172—Andrews Mixer
173—Clarklift Line
174—Lustergrip
175—FLX Tanks
176—Sewing Heads
177—Butler Plants
178—Thayer Scale



TRACTOMOTIVE TL-10 TRACTO-LOADER

Capacity — 1 cu yd
Horsepower — 63
Reach — 2 ft, 7½ in. (at 8-ft dumping clearance)
Weight — 11,700 lb

. . . in this low carry position the load is "tucked in" close to the cowl.

LOW CARRY . . . SHORT TURNING . . . HIGH LIFT

More output on every materials handling job

You can scoop up a heaping load and carry it low without spilling with the Tractomotive tip-back bucket. In this low carry position, the load is "tucked in" close to the cowl for better balance and visibility . . . easier maneuvering. Short turning radius enables the TL-10 to turn from a 9-ft aisle into a 10-ft bin without jockeying. It easily loads into high dump bodies or hoppers . . . and there's *extra long reach* because tires do not extend ahead of cowl. But these are just a few of many TL-10 advantages.

Hydraulic torque converter drive lets you crowd steadily into the pile — engine torque is multiplied three times. Tip-back feature gives a scooping action that fairly tumbles material into bucket. With clutch-type transmission, you pull a lever and move away from the pile on the double without time out for shifting. Reverse is almost twice as fast as forward. Bucket over drive wheels utilizes weight of loaded bucket for greater traction while it eases weight on rear wheels for easier steering.

Make an appointment for a demonstration. See how these big-production features will help you increase output.

SOLD AND SERVICED BY YOUR ALLIS-CHALMERS CONSTRUCTION MACHINERY DEALER

Send for Free Descriptive Catalog on the Complete Line of Tracto-Loaders

TRACTOMOTIVE

TRACTOMOTIVE CORPORATION • DEERFIELD, ILLINOIS

TRACTOMOTIVE CORP., Dept. FC
Deerfield, Illinois

☐ Please arrange a demonstration of TL-10.
☐ Send Catalog.

Name .....
Title .....
Company .....
Address .....
City ..... State .....

Gov't. . . .

(from page 27) (PA No. 42–235–99–A6–6001). Contract period: March 19 to June 30. Source: World wide. Terminal delivery date: September 30.

India. $2,166,700—agricultural pesticides (PA No. 86–236–00–A8–6001). Source: USA & poss. Terminal delivery date: June 30. Procurement through Emerg. Proc. Serv., GSA.

The Republic of Korea. $9,975,000—fertilizers (PA No. 89–99–A6–6013). Includes nitrogenous fertilizer, $7,800,000; phosphatic fertilizers, $1,800,000 and potassium chloride, $375,000. Contract period: March 9 to July 31. Source: World wide. Terminal delivery date: October 31.

Unless otherwise specified, procuring agency is assumed to be the recipient country, its authorized agents or importers.

CCC Lists Price Support Figures

Investment of Commodity Credit Corp. in price support, as of Feb. 29, amounted to $8,930,381,000, of which $3,168,242,000 was in loans outstanding and $5,762,139,000 in cost value of inventories.

Net realized program loss on price support operations for the eight months ended February 29 totaled $608,780,265. For the same period last year the comparable loss was $429,674,967 and for the fiscal year ended June 30, 1955, the program loss totaled $799,061,464.

The price-support operations of CCC are financed in large part by borrowings. It is authorized by statute to borrow money as needed, but as of Feb. 29, total borrowings could not at any time exceed in aggregate $12 billion.

Associations & Meetings

New Minnesota NH_3 Association Formed

The Minnesota Anhydrous Ammonia Association, formed at New Ulm, Minn. in February, held its first regular meeting on March 23 at the Normandy Hotel in Minneapolis. Formed "to provide the educational use, sale and application of anhydrous ammonia to Minnesota farmers," the group has as its officers Russell D. Slack, Minn. Liquid Fertilizer Co.—president; George Golla, Golla and Christianson—vice president; Kenneth Hiniker, Tri-County Farm Supply, Inc.—secretary-treasurer; and Earl Hackling, a Minneapolis attorney—executive secretary.

Directors include Golla; Slack; Hiniker; Dale Anderson, Farmers Service, Inc.; William Schultz, Anhydrous Ammonia Fertilizer Co.; Paul M. Lindholm, Minnesota Liquid Fertilizer Co.; and Hiram Fairchild, King Gas Products Co.

Membership is open to all ammonia distributors in the state and in adjoining states. Other categories of membership include producers, manufacturers and affiliates.

New Officers for GPFES Elected

The Georgia Plant Food Educational Society reports that its annual meeting, held January 17-18 in Athens, was a success in every respect. Total attendance was about 400, and the Athens Country Club was filled to capacity at the banquet. Officers elected for 1956 were J. E. Nunnally, Cotton Producers Assn.—president; J. Fielding Reed, American Potash Institute—secretary-treasurer; vice presidents (who also serve as directors)—P. D. Temple, L. Ralph Boynton, John Cope and John Porter; directors— W. W. Doughty, C. R. Mason, Malcolm Rowe, W. L. Baughcum, Henry Mauldin, Julian Reames, D. W. Reed, Roy A. Hendricks, George Brantley, Loy Everett; Ridley Monk, John Allman and W. W. Harley.

For many months, the Society reports it has requested an extension soil fertility specialist, and W. A. Sutton, extension director, has now employed Jim Bergeaux and Dr. Ralph L. Wehunt to work with Ralph Johnson, extension agronomy project leader.

Panel to Highlight Meeting of WACA

A panel discussion of "The Experimental Status of New Pesticides" will be presented during the afternoon session of the Western Agricultural Chemicals Association spring meeting, to be held on May 15 at the Hotel Clark, Los Angeles.

Panel members, all staff scientists of the Citrus Experiment Station of the University of California, include Dr. A. M. Boyce, director of the station. Dr. Charles A. Fleschner, associate entomologist, will show his film, titled "Natural Enemies of Insect Pests."

Fifth Sales Clinic Planned by SAACI

The fifth annual Chemical Sales Clinic, sponsored by the Salesmen's Association of the American Chemical Industry, will be held Oct. 15 at the Hotel Commodore, New York City.

For more news turn to page 38

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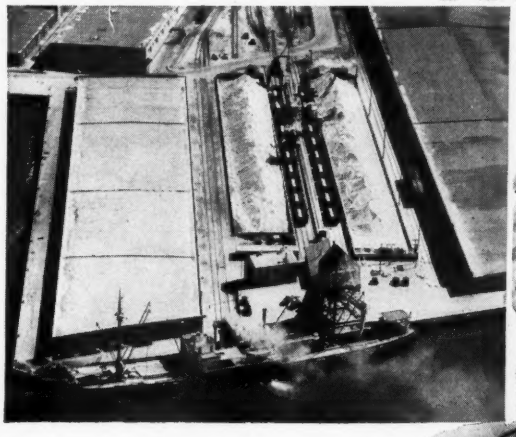

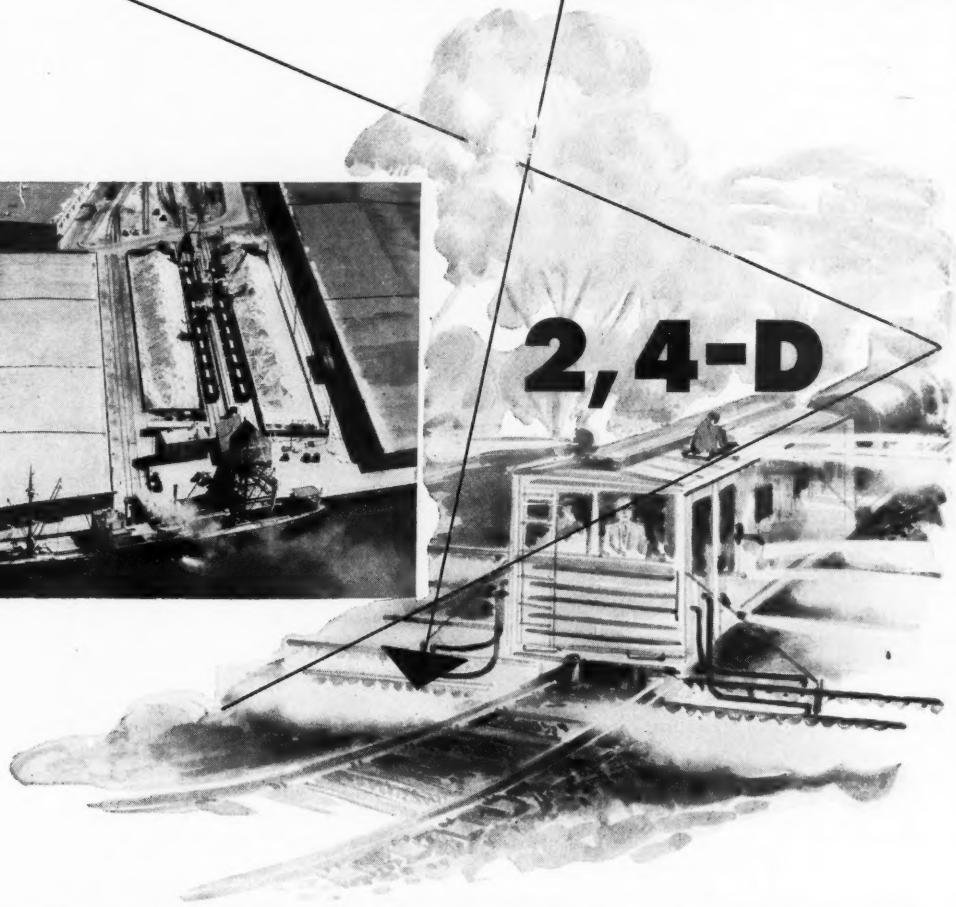

Naturalists have said that the forests would take over our cities in short order should all human activity cease. Railroads see vivid evidence of this on a small scale. They're constantly battling weeds on rights-of-way, on sidings, on spur lines.

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Associations & Meetings . . .

June 10–13 Set for NPFI Convention

Outstanding leaders in the field of Government, industry and agricultural communications will be heard at the Second Annual Convention of the National Plant Food Institute at The Greenbrier, White Sulphur Springs, W. Va., June 10-13, 1956.

On the program are Senator J. W. Fulbright (D-Ark.); a panel on salesmanship; reports of staff members on "One Year of Service to Our Industry," and presentation of "Soil Builders Award for Editors" winners. Several films will be shown, including "What's in The Bag," the Institute's new motion picture featuring the technology of fertilizer production in a down-to-earth presentation.

PNPFA Sponsors Ore. Demonstration

An Oregon farm demonstration project is being sponsored by the Pacific Northwest Plant Food Association. Objective is "to develop a demonstration showing maximum forage production and efficient use of this forage in a dairy farm operation to produce maximum profits."

Berkeley to Host Pacific Br., ESA

Berkeley, Calif., has been selected as 1956 meeting site for the annual meeting of the Pacific Branch, Entomological Society of America, according to recent word from Dr. Walter Carter, head of the Pineapple Research Institute of Hawaii entomology dept. and chairman of the organization. Members representing Federal and state research groups, industry and others interested in the field will meet at the Hotel Claremont June 26-28.

Speakers on the program and their subjects include Dr. Stanley B. Freeborn, professor of entomology and provost, Univ. of Calif., Davis, "Training the Professional Entomologist;" Dr. William Hospkins, U. C. Berkeley, "Theory and Use of Bioassay in Entomological Research;" and Dr. Ralph B. March, U. C. Riverside, "The Use of Radioisotopes in Entomology."

Symposia lined up include "Arthropod Transmission of Disease Pathogens," moderated by E. S. Sylvester of U. C. Berkeley; Audio Visual Aids in Entomology and a symposium on the Miller Amendment moderated by Dr. Glen Carman, U. C. Riverside. Participants in the latter discussion include Lea S. Hitchner, executive secretary, NAC Association; Allen B. Lemmon, chief, Bureau of Chemistry, Calif. Dept. of Agriculture; and representatives of the Pesticide Regulation Section, USDA.

Movies will be shown concurrently with the general sessions. An Insect Photo Salon will be a feature of the Tuesday evening program, with photographs of insects considered for first, second and third place and honorable mention in two categories—black and white, and co'or.

Among recreational events planned are a boat trip around the bay for the ladies; a cocktail hour, banquet and dancing.

Wilson Ag PR Head of Anniv. Comm.

Louis H. Wilson, secretary and director of information for the National Plant Institute, has been appointed director of agricultural public relations of the 50th Anniversary Committee in connection with the celebration of the 50th anniversary of the Federal Food, Drug and Cosmetic Laws.

Calendar

May 10-11. Governor's Safety-Health Conf., Lord Baltimore Hotel, Baltimore, Md., Fert. Safety portion on May 11.

May 15. Western Agric'l. Chemicals Association Spring Meeting, Hotel Clark, Los Angeles, Cal.

May 16-18. Synthetic Organic Chemical Manufacturers Assn. annual outing, Skytop, Pa.

May 20-22. Chemical Specialties Mfrs. Assn. mid-year meeting, Drake Hotel, Chicago, Ill.

May 25. Fert. Section, Virginia Safety Assn., Roanoke Hotel, Roanoke, Va.

June 5-6. American Phytopathological Society, North Central Div., summer meeting, Kansas State College, Manhattan.

June 10-13. National Plant Food Institute Convention. The Greenbrier, White Sulphur Springs, Va.

June 20-22. NE Branch, American Society of Agronomy summer meeting, Univ. of Maryland, College Park.

June 26-28. Pacif. Branch, ESA, Hotel Claremont, Berkeley, Calif.

June 28-30. Pacific Northwest Plant Food Assn. 7th annual regional fert. conf., Yakima, Wash.

June 28-30. Assn. of Southern Feed & Fertilizer Control Officials Convention, Hotel Roanoke, Roanoke, Va.

June 28-30. Pacific NW Plant Food Assn. Fertilizer Conference, Chinook Hotel, Yakima, Wash.

June 30. 35th annual convention, Del-Mar-Va Peninsula Fert. Assn., Hotel Geo. Washington, Ocean City, Md.

July 12. Annual S. C. Fertilizer meeting and tour, Edisto Exp. Sta., Blackville, S. C.

July 19-20. Southwestern Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Tex.

July 25-27. NW Assn. of Horticulturists, Entomologists & Plant Pathologists Conf., Northwest Wash. Experiment Sta., Mt. Vernon, Wash.

Aug. 1. Annual Kentucky Fertilizer Conference, Guignol Theatre, Univ. of Kentucky, Lexington, Ky.

Aug. 17-25. Tenth International Congress of Entomology, McGill University & Univ. of Montreal, Montreal, Canada.

Aug. 30. S. C. Plant Food Educational Society Fall Convention, Clemson House, Clemson, S. C.

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New Coop Granulating Unit

The industry's first Stedman-Snyder granulation unit has been placed in operation by Northwest Co-Operative Mills at its Green Bay, Wisc. plant. G. O. McMillin, manager of the co-op fertilizer division advises test runs and initial production began in late January.

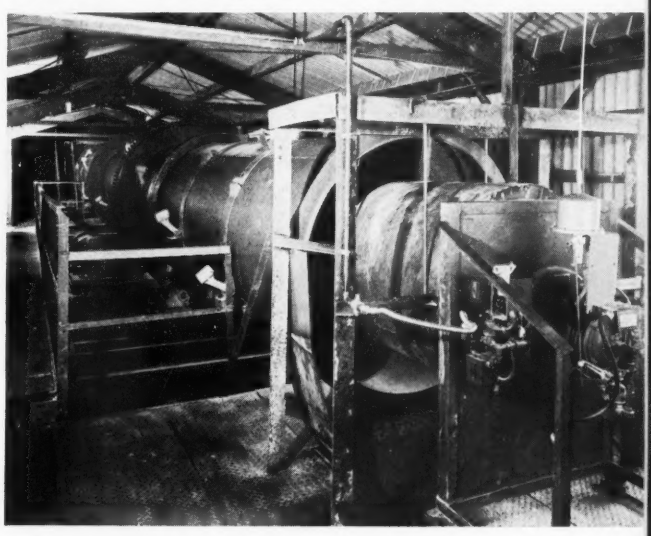
Equipment designed and furnished by the Stedman Foundry & Machine Co. was installed in a 9,000 square foot steel and transite addition to the existing plant. Stedman's sales engineer, H. R. Krueger supervised the start-up procedure and initial output.

The facilities are designed to produce 20 tons per hour of granular fertilizers or larger tonnages of conventional goods. McMillin believes a near all-time record was achieved when the plant was placed in operation just four and a half months after ground breaking.

To aid in maintaining top quality control, dry materials are proportioned by Omega gravimetric totalizing feeders and liquid ingredients are handled by Fischer-Porter recording-totalizing flowrators.

Tom O'Brien is plant manager at Green Bay and Dominick Stolar is in charge of the other co-op plant at Winona, Minn. Wm. E. Jones is in charge of research and development in the fertilizer division.

LEFT: The end-product—Co-op granulated plant food. BELOW: The oil burner and combustion chamber at the end of the 5 ft. by 65 ft. counter current drier.



Mexico's Growing Industry

By Emil Zubryn

MORE than 400 million pesos will be invested in three new fertilizer plants located in key points for supplying the republic's diversified farming areas. The 32 million dollar program is only the start of intensified construction of fertilizer plants in Mexico, according to Secretary of Agriculture Gilberto Flores Munox, who is urging Mexican private capital to invest in this growing industry.

New Fertilizer Plants

Petroquimica, S.A., a private organization which has obtained private capital together with some foreign financing and loans, has announced that it will build two nitrogen plants. The initial facility will be erected in Guaymas, Sonora, at a cost of 75 million pesos ($6 million) and will be designed for 90 ton daily capacity of anhydrous ammonia.

This production, experts say, will be sufficient to to fertilize an area of more than 1.25 million acres in the agricultural zones of Mexicali, Lower California, and the states of Sonora and Sinola along the Pacific northwest coast of the republic.

Federal officials and agricultural leaders are already looking to heavy increases in production of wheat, rice, sugar and cotton of the irrigation districts of the vast area to be serviced by this plant.

Petroquimica is still studying locations for its second plant but it is learned unofficially that the site may be Monclova, Coahuila, an industrial and rail center. This factory will produce not only anhydrous ammonia but also solid nitrogen fertilizer as urea and ammonium nitrate, according to a company official.

The Guaymas plant is scheduled for completion in early 1957 and, while work on the second unit is to begin this year, it will not be accelerated until the initial factory is in operation.

This company may seek still another plant site, for there is a project to put up a factory in Monclova with administration blessing and Mexican and French capital. There has been talk of a $10 million investment and a daily production of 100 tons of anhydrous ammonia to supply farmers in northern Mexico. If and when established, for there has been nothing officially done outside of negotiation stages, this would further reduce Mexican fertilizer imports by 35 per cent.

In Puerto Mexico, Veracruz, the fifth Guanos y Fertilizantes (semi official fertilizer firm) plant was scheduled to begin operation earlier this year and is expected to meet the plant food needs of about 10 per cent of tillable land in Mexico. The installation incorporates a German process which eliminates sulfur requirements.

The Administration's Goal

These major developments indicate that Mexico, after years of marking time, is actually launching a full-scale program which will ultimately make it not only self-sufficient in fertilizer needs but will convert it to an export nation serving other Central and South American nations. At least that is the ultimate goal of the administration.

Part of the swing to fertilizer production is the projected Minatitlan plant which will represent a 200 million peso ($16 million) investment. During a recent trip to Minatitlan to inaugurate refinery improvements in that area, President Adolfo Ruiz Cortines indicated that he had approved establishment of such a unit.

Its capacity is to include 49,500 tons of anhydrous ammonia, 72,600 tons of nitric acid, 91,740 tons of ammonium nitrate and an unspecified amount of triple superphosphate. Some eight million dollars would be spent for foreign machinery and equipment.

The Mexican government to date has had a virtual monopoly in the field through Guanos y Fertilizantes but has now decided to give "all official aid" to

A booming farm chemicals industry appears in the making in Mexico, according to FC's on-the-spot correspondent. Here is his latest report covering large scale expansion of fertilizer and pesticide facilities and the possible development of recently uncovered phosphate deposits.

private interests in this drive to build up plant food production.

Phosphate Rock Deposits

Oswald Gurria Urgel, managing director of the Mining Development Commission has revealed that Mexico has "huge phosphoric rock deposits in the Concepcion del Oro and Mazapil (state of Zacatecas) regions." These deposits will be commercially exploited at a later date, Urgel said, and a 50 ton per day superphosphate pilot plant is now planned.

The decision to exploit the Zacatecas deposits was made when the administration checked import figures for 1955. These showed that the republic had imported some 40,000 tons of Florida phosphate rock. This year the total will be boosted to 55,000 tons at a cost to the government of 8,175,000 pesos ($654,–000).

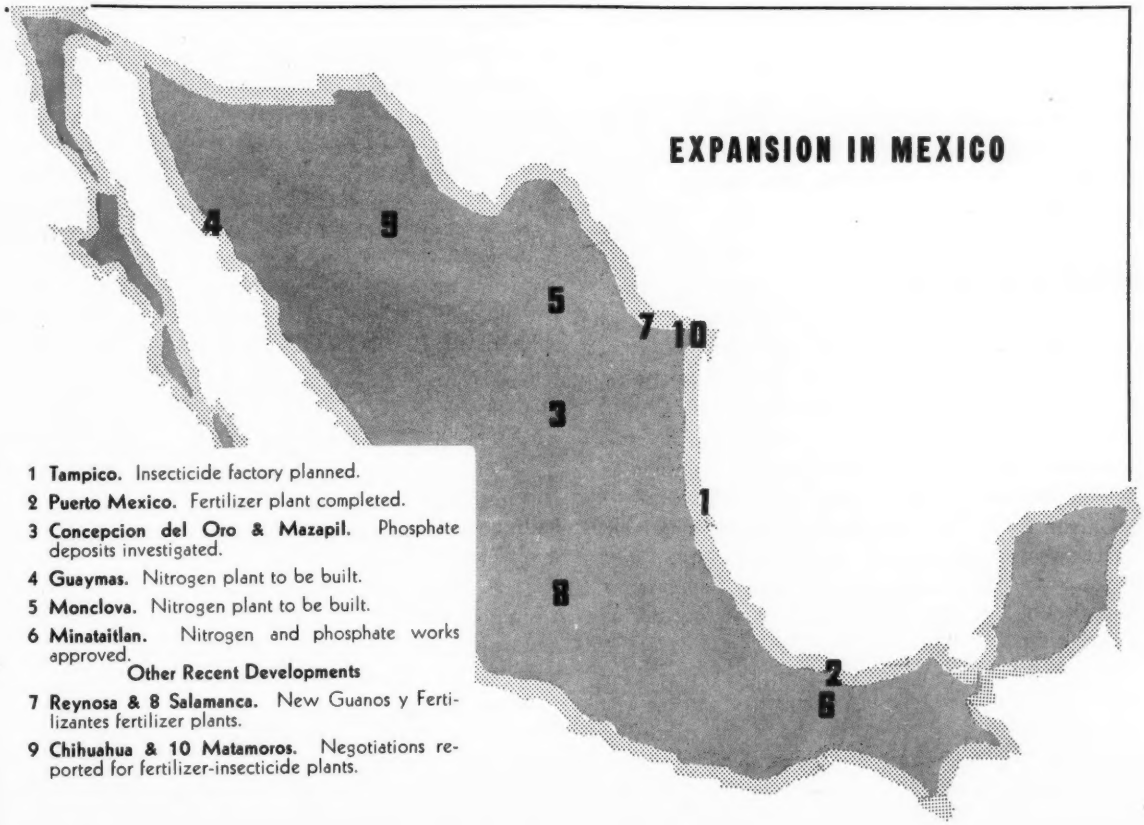
Urgel freely admitted that the phosphate formations are low grade, containing from 16 to 20 per cent of phosphorus pentoxide. However, he explained that laboratory experiments in Tecamachalco have demonstrated the possibility of upping this to 30 per cent, permitting industrial exploitation.

The mining engineer revealed that exploration work had been going on for years, under the sponsorship of and using technicians of the National Institute for Investigation of Mining Resources. Once commercial use appeared feasible, further research was placed in the hands of the Mining Development Commission.

Until now there have been no major finds of phosphate rock in Mexico although some rather insignificant deposits are known in Nuevo Leon.

The Mazapil and Concepcion del Oro formations are rocky folds said to reach a great depth, embedded in limestone. An "open sky" type of mining operation will be needed to work them.

Full scale production is not expected earlier than



New Insecticide Facilities Planned

PLANS for construction of an insecticide plant in Tampico, the only one of its kind in Mexico, have been announced by Jorge Madrid and Antonio Balvanera, executives of the National Chemical Pharmaceutical Industry. The unit would utilize saline deposits from the Altamira region of Tamaulipas in production of chlorine and caustic soda.

These materials, with benzol shipped from the Monclova region, said the chemists, would make possible low cost production of high quality insecticides in Mexico for the first time.

Estimated cost of the installation is $5.6 million. Of this, Madrid and Balvanera would invest $80,000 in the name of the NCPI, a semi-official organization which aids in the development of new sources of work in the chemical and pharmaceutical fields. Petroleos Mexicanos has indicated a willingness to provide power required by such a plant.

1958 and Dr. Alfonso Romero, chief of the department of research and projects at Guanos y Fertilizantes has stated that the rock from Zacatecas will require a "laborious laboratory procedure" to boost the phosphate recovery.

Statement by Galvan

Not long ago, Ursulo Ferrer Galvan, head of Guanos y Fertilizantes, said that it will be possible for Mexico to produce all the fertilizer needed by its growing agriculture. It is during the current administration that the federally subsidized firm has acquired what has been described as a "singular importance" in current agricultural programs.

Galvan is not just an executive, he has long been a champion of an aggressive program and the "shot in the arm" of foreign capital needed to spur plant construction. He knows the needs of the farmer as well as shortcomings of the nation.

National production, Galvan points out, is still far below actual needs. Last year plant food output was scarcely 80,000 tons, three fourths of this produced by Guanos y Fertilizantes. With overall consumption set at about 200,000 tons, imports covering the deficit required an expenditure of over $8.6 million.

Current basic needs have been estimated by various agencies at around 300,000 tons of nitrogenous fertilizers, 1.5 million tons of ammonium sulfate, 250,000 tons of phosphorus, and 1.5 million tons of superphosphate. Mexico produces only about 35 per cent of these requirements.

Goal of the administration is to make Mexico self-sufficient in all agricultural production, and this year it appears that the wheat harvest will, for the first time, meet consumer demand.

Farm Extension Activities

Secretary of Agriculture Munoz is organizing a series of field demonstrations for campesinos (farmers), including both lectures and visits to field camps. Thus growers, long reluctant to adopt general use of fertilizers, can see the results of proper soil fertilization.

In the first coordinated drive, Mexican farmers are learning fertilization methods and pest control. They are being shown the proper use of chemical fertilizers and Department of Agriculture task forces are laboring daily to convince farmers of the "necessity and convenience of increasing yields per hectare unit" to benefit both themselves and the national economy.

While farmers, especially those of the old school and those located in inaccessible regions, have been resisting the "government interference," the attitude is slowly changing.

Secretary Munoz has reported with considerable elation that in the state of Sonora, where agricultural lands are worked by cooperative farmers who obtain their loans from the Ejidal Banks, 95 per cent of the lands are being worked with fertilizer. Just a few years ago only 20 per cent of the farm area received plant foods.

The Swing to Fertilizer

Everywhere the swing to fertilizer use is apparent and this year the Department of Agriculture expects to release harvest figures for wheat, corn and other basic commodities that will "astound" the world. But agricultural experts know that, with this snowballing trend, Mexican fertilizer requirements will double within the next decade.

That is why the construction program is now so all-important and why private capital is being urged more and more to enter "a profitable and growing industry."

While no one in official circles will say when Mexico will become self-sufficient in fertilizers and reach an export nation status, there have been comments that the goal can be reached within five to 10 years if plant construction continues to boom. ▲

FDA Revises Regulations

NEW amendments proposed by the Food and Drug Administration for pesticide tolerance regulations include arranging a number of important agricultural crops in groups for tolerance purposes. Paragraphs would also be added to current regulations covering tolerance levels where two or more chemicals of the same class are present and to petition data requirements.

Regulations now require "sufficient information" to permit investigators to successfully apply the analytical method. These added requirements, relating to tests on quantities of remaining residue, are part of the FDA proposal as it appeared in the April 14 Federal Register:

"Data in a petition on the amount of residue remaining in or on a raw agricultural commodity should establish the residue that may remain when the pesticide chemical is applied according to directions registered under the federal insecticide, fungicide, and rodenticide act, or according to directions contained in an application for registration. These data should establish the residues that may remain under conditions most likely to result in high residues on the commodity."

The petition should establish, FDA continues, reliability of research data provided on each commodity on which a tolerance or exemption is requested and must include data on analytical methods as already noted.

If the chemical is a systemic, residue data may be needed for each tolerance or exemption requested, but, if it is "not absorbed into the living plant or animal when applied," a reliable estimate could be made of residues to be expected on each commodity in a group of related crops. This indicates at least a slight break for companies preparing data for FDA review—less data would be required in many cases.

The industry should also benefit by the grouping of over 100 crops into 27 classes, since each class would be considered a single raw agricultural commodity when computing fees. Existing regulations call for a deposit of $1,000 plus $100 for each raw agricultural commodity over nine.

Here are the groups of crops considered by FDA to be related for tolerance and exemption purposes:

1. Apples, crabapples, pears, quinces.
2. Avocados, papayas.
3. Blackberries, boysenberries, dewberries, loganberries, raspberries.

New Amendments On Petition Data, Tolerances and Crop Groupings

4. Blueberries, currants, gooseberries, huckleberries.
5. Cherries, plums, prunes.
6. Oranges, citrus citron, grapefruit, kumquats, lemons, limes, tangelos, tangerines.
7. Mangoes, persimmons.
8. Peaches, apricots, nectarines.
9. Beans, peas, soybeans (each in dry form).
10. Beans, peas, soybeans (each in succulent form).
11. Broccoli, brussels sprouts, cauliflower, kohlrabi.
12. Cantaloups, honeydew melons, muskmelons, pumpkins, watermelons, winter squash.
13. Carrots, garden beets, sugar beets, horseradish, parsnips, radishes, rutabagas, salsify roots, turnips.
14. Celery, fennel.
15. Cucumbers, summer squash.
16. Lettuce, endive (escarole), Chinese cabbage, romaine, salsify tops.
17. Onions, garlic, leeks, shallots (green, or in dry bulk form).
18. Potatoes, Jerusalem artichokes, sweet-potatoes, yams.
19. Spinach, beet tops, collards, dandelions, kale, mustard greens, parsley, Swiss chard, turnip tops, watercress.
20. Tomatoes, eggplants, peppers, pimentos.
21. Pecans, almonds, Brazil nuts, bush nuts, butternuts, chestnuts, filberts, hazelnuts, hickory nuts, walnuts.
22. Field corn, popcorn, sweet corn (each in grain form).
23. Milo, sorghum (each in grain form).
24. Wheat, barley, oats, rice, rye (each in grain form).

25. Clovers, alfalfa, cowpea hay, lespedeza, lupines, peanut hay, pea-vine hay, soybean hay, vetch.
26. Corn forage, sorghum forage.
27. Sugarcane, cane sorghum.

These groupings do not affect certification of usefulness by the Secretary of Agriculture as required by existing regulation and commodities not listed are not considered related.

New Tolerance Provisions

Tolerance provisions would also be amended by FDA where two or more chemicals in the same class are on or in a raw agricultural commodity. The tolerance for the total of such residues, with two exceptions, would be the same as that for the chemical having the lowest numerical tolerance.

However, when two or more materials in the same class are present and there are available methods permitting quantitative determination of each residue, the combined quantity of residues is determined in this manner:

Find the quantity of each residue present, divide each by the tolerance that would apply if it occurred alone, multiply by 100 for percentage and add the percentages obtained for all residues.

If there are methods permitting quantitative determinations of at least one but not all residues, this method would be used:

Determine the quantity of each residue where possible, deduct this from the total residues present and consider the remainder to have the same tolerance as that of the chemical having the lowest numerical tolerance in that class. Divide the quantity of each determinable residue by the tolerance that would apply if it occurred alone, divide the quantity of remaining residue by the tolerance for that chemical having the lowest numerical tolerance in that class, multiply each by 100 to determine the percentage of the permitted amount of residue present and add the percentages for all residues present.

FDA now lists two groups or classes of pesticide chemicals, the chlorinated hydrocarbons and the organic phosphates. Under the proposed amendments, p-chlorophenyl-p-chlorobenzenesulfonate would be added to the chlorinated hydrocarbon class which already includes aldrin, BHC, chlordane, chlorobenzilate, DDD, 2,4-D, dieldrin, heptachlor, lindane, methoxychlor, SES, sulphenone and toxaphene.

The list of five organic phosphates (EPN, malathion, methyl parathion, parathion and Systox) would remain unchanged.

Two new classes would be added—dithiocarbamates, including ferbam, maneb, thiram, ziram and zineb and dinitro compounds (dinitro-cyclo-hexylphenol and dicyclohexylamine salt of dinitro-o-cyclohexylphenol).

Sulfur, lime and lime-sulfur are the three pesticide chemicals already considered safe for use and FDA proposes adding sodium carbonate and sodium polysulfide to this group.

A final important change proposed would permit FDA to discontinue notification of petitioners of the dates on which their petitions are filed. Petitions must be filed in duplicate with evidence to show that the petitioner has registered or submitted an application for the registration of the pesticide chemical under the Federal Insecticide, Fungicide, and Rodenticide Act. ▲

Plant Safety Tip #9

Clearing a Roll

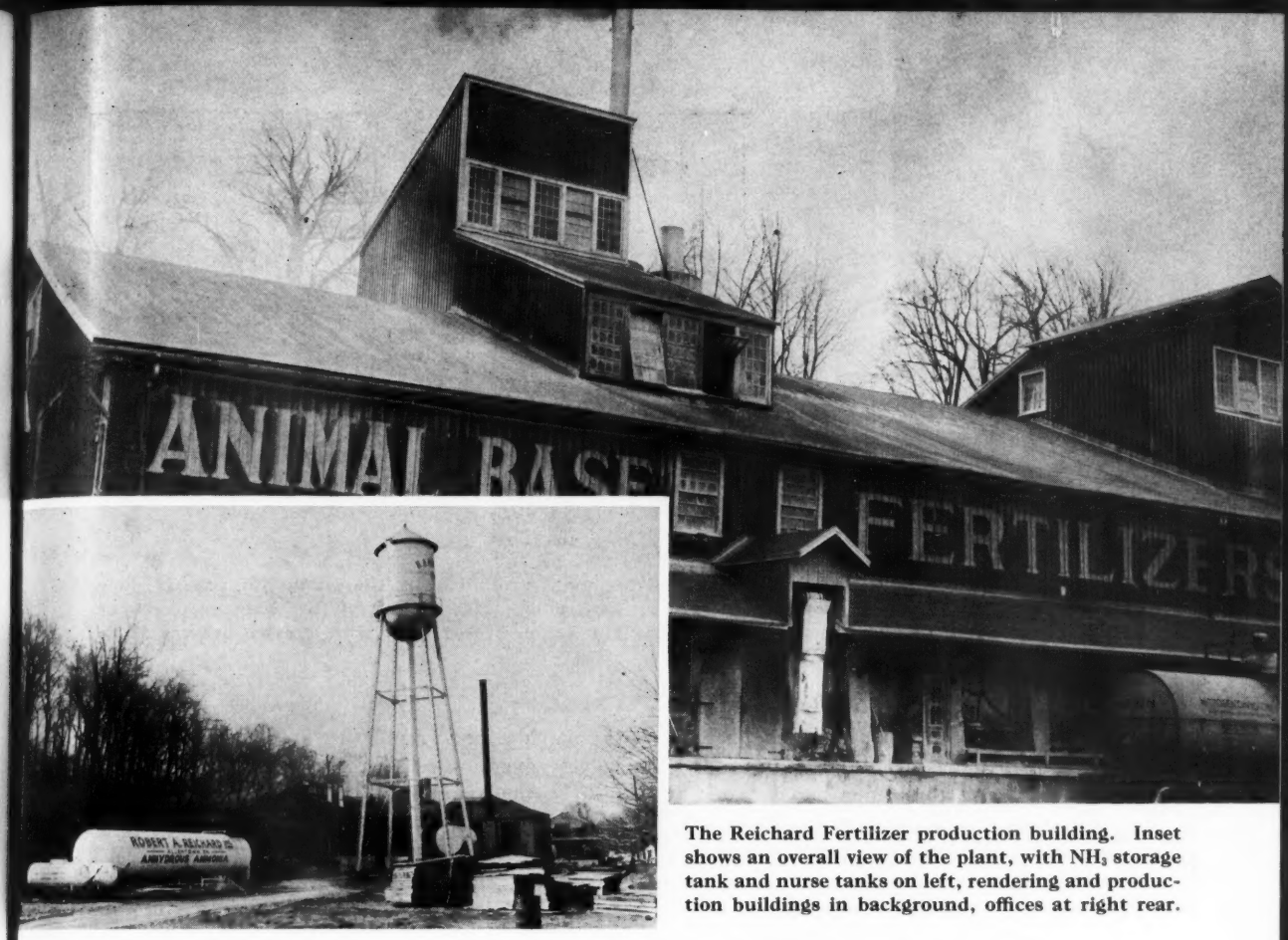
The Accident: While bag packing in September, 1954, a fertilizer plant employee sustained severe injury.

A piece of hard acid phosphate or other foreign material had lodged between the belt and the conveyor roll. Instead of stopping the conveyor, removing the guard device and then attempting to remove the foreign material, the employee stuck his left middle finger between the guard and the roll and tried to "flip" the material out.

Result: His finger was caught in the moving roll, causing avulsion of the extensor tendon. After healing, there was complete loss of function in this finger—permanent partial disability of the left hand. Ninety days were lost from the job.

Comment: During the 35 years this worker had been employed by the firm, he had never previously had a lost-time compensable injury, and was an active member of the plant safety committee. He is greatly chagrined, and has frankly admitted that he did everything he had been taught NOT TO DO.

Action Taken: Although no direct action was taken, publicity of the accident among the employees has served as sufficient warning to all.



The Reichard Fertilizer production building. Inset shows an overall view of the plant, with NH_3 storage tank and nurse tanks on left, rendering and production buildings in background, offices at right rear.

Reichard Firm Expands

Granulation, Liquid Mixing And NH_3 Units Installed At Allentown, Pa. Plant

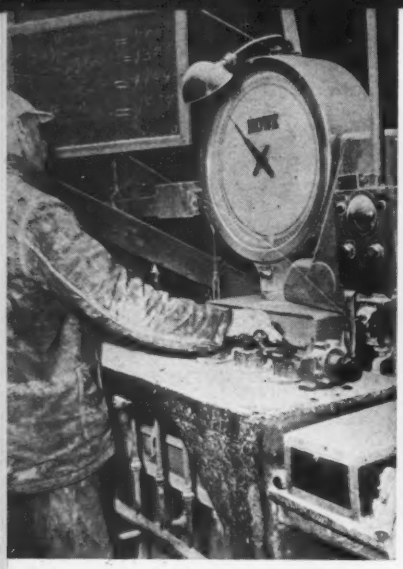
AT THE Robert A. Reichard, Inc. fertilizer plant, they don't trust to luck in measuring sulfuric acid for the new Blue Valley granulating system. Nor do they rely on an operator's accuracy. Instead, an automatic measuring unit has been installed in the Allentown, Penna., facilities.

An outdoor acid storage tank is connected to a small volume tank equipped with automatic control and a visual gauge. Using a push-button control pane, the operator of the batching system starts flow of the acid, the unit fills to the proper level and shuts off. Once the load is released to the mixer, the operation can be repeated.

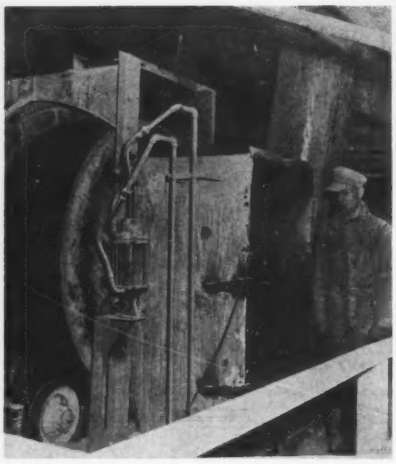
This attention to detail and economy is characteristic of the Reichard firm, located in the heart of Pennsylvania's rich Lehigh Valley farming community. The company serves a market area covering most of the eastern portion of the state and a few New Jersey counties.

Now headed by two brothers, Clarence A., president, and Eugene A. Reichard, treasurer, it has branched far afield from its early start in the rendering business. Although still engaged in this activity, most of the Reichard business and interest is now in plant foods and other farm chemicals.

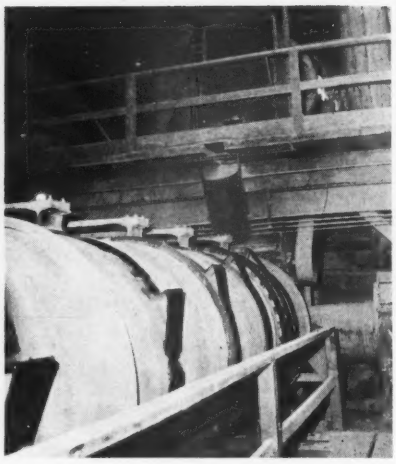
The granulating unit is an excellent example of Reichard's progress. In the fall of 1953 a completely automatic A. J. Sackett & Sons Co. batch-



Heart of the operation—batching system controls. Operator uses air valve controls to add solid ingredients.



Attendant stands by the one ton Worthington mixer, located a floor above the granulator tube.



Rear of the granulator tube is shown at the left of the photo, mixer on upper level with gravity delivery chute.

ing system was installed. This included an eight bin storage compartment and permitted output of 18 tons per hour with three men as compared to 12 tons with seven men in the older facilities.

Now, with the advantages of granulated materials well recognized, the company has completed installation of the Blue Valley system which, says Clarence, provides a maximum mixing capacity, minimum labor requirements and the best possible product. When completely shaken down, production is expected to average 10 tons per hour with four men, somewhat less than with the batch system alone. However, accompanying economies permit Reichard to maintain the same prices as those used for pulverized fertilizers.

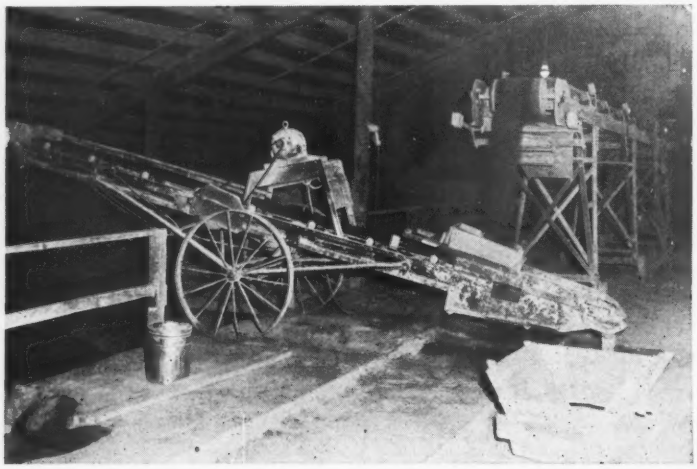
One operator, located at a control panel between the batching and granulating units, operates the air valves governing release of solid materials and the push buttons that release sulfuric acid to the mixture.

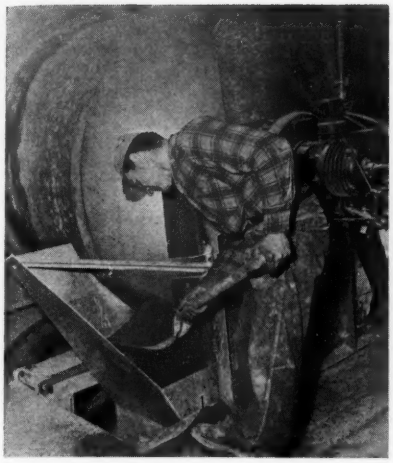
Solid materials are delivered to an elevator boot by Payloaders, shaken through a Hummer vibrating screen and dropped into the Sackett storage cells. As released by the formulation operator, they are carried by conveyor to a second elevator and directed to a one ton Worthington mixer located a floor above the granulator tube.

Mixed goods fall by gravity into the granulator and are tumbled toward the hot end where they fall to the cooler. At the opposite end of the cooler tube the finished granules are carried to an elevator and sent to a shuttle conveyor system on the fourth level of the structure.

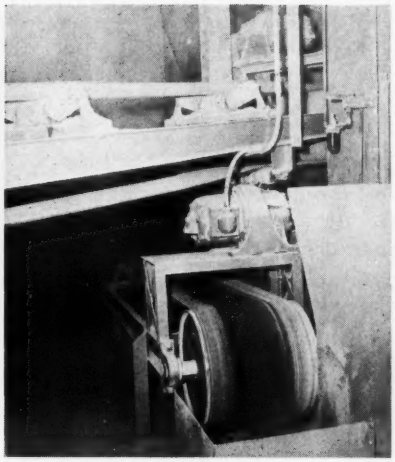
Bagged goods storage room. Note the use of pallets and double tier arrangement.

Payloader delivers material to the boot of the bagging station elevator. Material is then shaken through a Hummer vibrating screen.

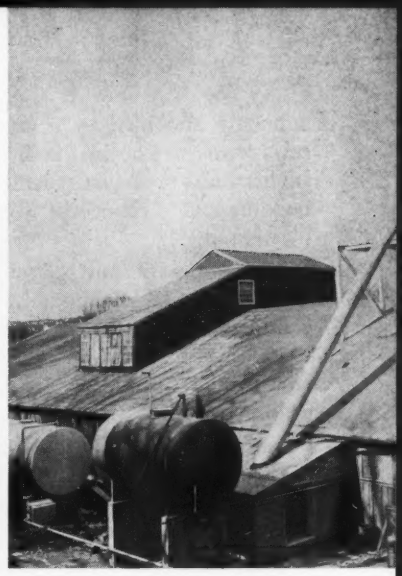




Hot end of the granulator with oil burner. The operator examines granules which are being chuted to the cooler.



Conveyors leading to elevator boots. Top unit takes raw materials to mixer elevator, lower handles granulated goods.



Rear of fertilizer production area. Fuel oil tank on left, sulfuric acid storage, right.

This Farquhar shuttle installation includes a stationary conveyor in the center of the building, running about a third of its length. It receives material from the delivery elevator dropping it on a track-mounted conveyor that can be shifted to deliver to any point in the building. With this system and a small portable conveyor, materials can be placed in any of the huge storage bins.

For bagging, materials are removed from the bins by Payloader, carried to an elevator and released to a two station valve packer and placed in multiwall sacks.

The bagged goods storage area utilizes another Reichard innovation. The area is filled with a large number of bins facing the loading dock, each equipped with parallel beams about five feet above the floor. Bagged goods are placed on pallets and the pallets stacked two high, one layer on the floor and another on the parallel beams. With a Mobilift fork truck, handling of bagged goods is an easy matter, cutting down on manpower requirements and reducing losses due to broken or torn bags.

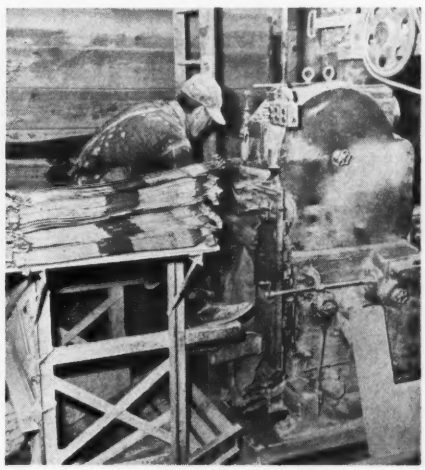
Reichard is expanding in two other directions, in addition to the conversion of granulated fertilizers. Last year the firm began distribution of anhydrous ammonia and last month completed installation of a Midstate Machinery Co. liquid fertilizer plant.

An excellent steel frame building was available for the liquid plant food venture. Once used for bone charring operations, it includes four large tanks that have been adapted for storage of liquid mixes.

The MidState installation utilizes anhydrous

Delivery end of the shuttle conveyor showing the track mounted unit and portable conveyor placing granulated goods in a storage bin.

Valvepacker unit in operation. Bagged goods are handled with a Mobilift fork truck.



ammonia and includes a completely contained reactor tank. Phosphoric acid is contained in a rubber lined tank just outside the four story mixing building and is connected to the reactor controls by plastic pipe.

The automatic unit permits blending of all materials from one station and, when in full operation, can be handled by only two men. It is arranged so that finished mixes can be sent to one of the four storage units, piped directly to waiting tank trucks, or directed to a fifth tank for subsequent drumming.

To help push sales of these formulations, Reichard is equipping four trucks with 1,000 gallon tanks and 32 foot spray booms for use by independent operators.

The firm is also making 100 gallon tanks for farm use, to be mounted on tractor or truck, and designed for operation with Standard Steel Mfg. Co. metering systems and Kromer applicators. Sold at a moderate price, they are expected to aid in developing interest in liquid materials.

Last year Reichard entered the anhydrous ammonia business through purchase of the equipment of an unsuccessful NH_3 venture in another part of the state. The Allentown firm is believed to be the first independent operator in the northeast to offer this service.

An 18,000 gallon storage tank was set up and now supplies both the NH_3 service and the liquid fertilizer plant. Both nurse tanks and applicators were included in the initial equipment purchase, although, to date, the company has not engaged in application work.

Clarence believes that, for the present, anhydrous ammonia sales will be successful in this area only as a service of established fertilizer outlets. Interest is not yet sufficient, in his opinion, to support independent operators.

With the considerable renovations that have taken place the old electric set-up was completely outmoded. Now the finishing touches are being added to a new system designed to cover all present operations while providing a margin for future needs.

The Reichards pay close attention to the financial end of the business and avoid credit dealings with marginal operators. They insist on verification from banks and other sources of credit information before serving customers on this basis.

As a result, states Clarence, "we don't charge anything in overhead for bad debts." During the past 10 years, Reichard's bad risk loss has been less than $4,000.

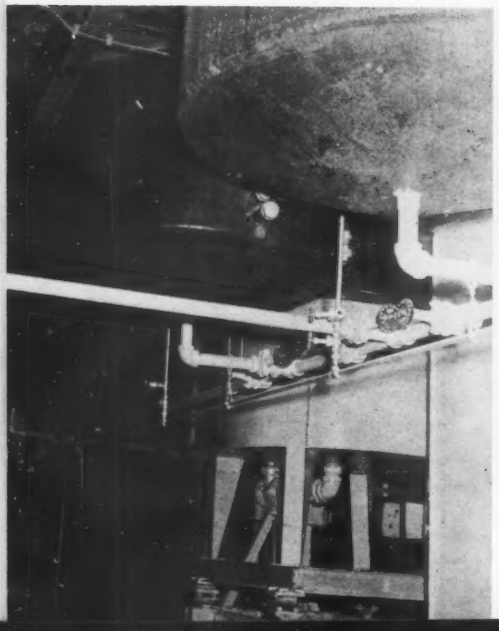
In its promotion activities, the company utilizes newspaper advertising, billboards, direct mail and takes place at state farm shows for attractive displays.

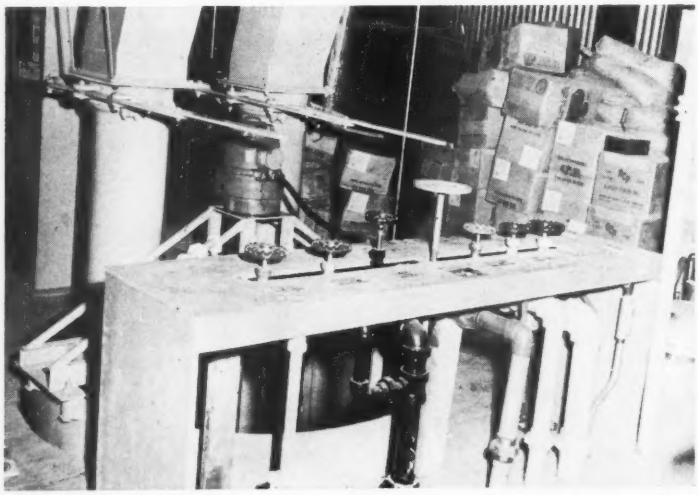
An excellent 16-page newspaper is issued every two months filled with articles by well known agricultural authorities and local news items. A substantial volume of advertising from farm supply stores in the market area helps to support this venture. Copies are sent to all farmers free for the asking.

In addition to rendering and fertilizer operations, Reichard also acts as distributor for a number of well known lines of pesticides, sprayers, applicators and other items. A crew of well-trained salesmen cover both agricultural and horticultural dealer accounts, going directly to the customer where necessary.

Clarence emphasizes the necessity of offering top customer service. With competition heavy in this market area, service plus efficient and economic operation are the essentials of a profitable farm chemicals business. ▲

LEFT: Lower level of liquid fertilizer plant, showing three of the storage tanks and bottom of the reactor (right background). RIGHT: Control panel of the liquid fertilizer plant. The top of the reactor is visible at floor level behind the controls.





Plan on the Soil Bank—

Odds Favor It

By John Harms

YOU now can plan with considerable certainty on a $1.2 billion Soil Bank being put into operation for the 1957 crop season. The Administration has made up its mind to launch such a program—with or without the type of legislation it wants from Congress.

Thus, unless something unforeseen occurs to upset the applecart, industry would be well advised to start now to plan for the bigger market anticipated for fertilizer, lime and seeds. In fact, fertilizer salesmen may find a new opportunity for advance sales of plant foods in anticipation of the vast conservation program coming up next year.

Upon reviewing the omnibus farm bill, President Eisenhower demanded Congress provide a bill covering the formal authority for establishing the Soil Bank and its Acreage and Conservation Resources. But as it is in the highly-charged atmosphere of a presidential-congressional election year, Congress is reluctant to give Ike exactly what he wants. It amounts to a tug-of-war to see which party can pull the most farm votes next fall.

Soil Bank Maneuvers

Key argument is not whether there should be a Soil Bank to help reduce production—both parties are agreed that one is needed—but whether the government has the authority to go ahead under existing law. Congress' Democratic leadership says the Agriculture Department already has all the authority it needs—under the Soil Conservation and Domestic Allotments Act of 1936. At press time, they were trying to ram through a simple appropriation measure authorizing spending of $1.2 billion for the Soil Bank.

The Administration, on the other hand, denies that it has the authority to run the program the way it wants to. For one thing, Secretary Benson has said that present law permits contracts under conservation programs for a single year at a time. In order to obtain fullest cooperation from farmers, he holds, the government needs authority to make contracts ranging up to 15 years. Another authorization needed, according to the Secretary, is one permitting advance Soil Bank payments this summer to farmers against compliance promised for next year. Democrats agree that Benson cannot make advance payments, as Ike suggested in his veto message, but they are reluctant to authorize them—on grounds the

How the Conservation Reserve would operate on a 320-acre farm in the Corn Belt:

20 acre hill field put into reserve:

Total cost of establishing grass cover, $25 an acre	$500
Payment to farmer at 80 per cent of the cost	400
Annual payment, based on area farmland productivity at $15 an acre	300
Total payment, 1st year, ($300 plus $400)	700
Payment in following years of contract	300

How ACP would be handled in Acreage Reserve:

Acres taken out of corn and put into Reserve	40 acres
Farmer wants to establish permanent seeding of grass and legumes on	40 acres
Approximate total cost including land preparation, seed, lime, fertilizer, labor and use of machinery	$1,520
ACP practice offers 50 per cent cost-sharing aid to farmer	760

ACP cost share includes per acre aid for:

Seed bed preparation	$3.00
Seed	5.00
Lime	5.00
Fertilizer	6.00
	$19.00 an acre

($19 x 40 acres = $760 cost share)

Farmer pays remainder of total cost of conservation practice, including furnishing labor and machinery, approx. $760

Examples furnished by Agriculture Dept.

Republicans would pump up to $500 million in payments into the farm belt as a vote-getting gimmick.

If the government gets permission to make advance payments, farmers would sign agreements this summer to take out a certain amount of land from production and put it into conservation. At that time, they would be paid half of the amount of money called for under their contract. Then, next year, after a compliance check, they would receive the other half.

If, on the other hand, the advance payment authority is not forthcoming, there would be no payments until 1957, except in the possible case of wheat going into the ground next fall. If the USDA gets the money, it will enter contracts with winter wheat farmers, and make payments after a compliance check late next fall.

Soil Bank Selling Tips

Here are tips for salesmen on how to get in on the ground floor of the Soil Bank when it is finally started:

Under the Soil Bank regulations, sales can be made either directly to the farmer, or to the County Agricultural Stabilization Committees. The County ASC Committees will decide how it's to be run in their bailiwick. Some committees will advertise for purchases on a bid basis; others will buy at a uniform price which they will set. Purchase of materials is expected to be under procedures identical with the present Agricultural Conservation Program (ACP).

Officials believe the main soil-builders which will be bought in large quantities include lime, and phosphate and mixed fertilizers.

When payments start, and they could begin this summer, salesmen and dealers should be encouraged to ask the County ASC committees for a list of names of farmers who have received Soil Bank checks. Under government regulations, these names are to be available 30 days after payments are made. Armed with a list of paid farmers, it should be possible to line up advance sales of plant nutrients and seeds this fall. This procedure, of course, applies regardless of when payments are made, this summer, fall or next spring.

Operation of the Soil Bank

Here is how the Soil Bank will work:

There are two parts to the program: (1) The *Acreage Reserve*—to reduce basic crop surpluses, by adjusting production below established acre allotments. (2) The *Conservation Reserve*—to cut back excess production of crops in general (including that on "diverted" acres) by shifting acreage to long-range conservation uses.

The Acreage Reserve, in itself, is of least importance in the fertilizer industry. Farmers will simply get paid a price—which will come to a high percentage of the income they would have gotten from "banked" land if they had planted it—for entering this Reserve. They can let this land stand idle.

But farmers may be encouraged to conduct conservation practices on this land—such as seeding for cover crops and keeping idled land "healthy." If they conduct such practices on Acreage Reserve land, they can get cost-sharing payments under the regular ACP program. Such cost-sharing covers lime, fertilizer, seed and other approved practices. The odds were at press time that the current ACP fund of $250 million would be increased to cover ACP work on idled acres of this Reserve.

The Soil Bank is in addition to regular agricultural programs and is designed to strengthen them. Price support programs and acreage allotments-marketing quotas for most presently-covered crops will continue, but tied closely to the Bank. The ACP program will continue to include regular conservation activities outside the soil bank as well as within it

The Conservation Reserve is the key one in regards to the fertilizer industry. There will be two types of payments under this part of the program: (1) payments in cash (or in conservation materials and services, such as fertilizers and their application to fields) for carrying out a conservation practice on land included in the Reserve. This payment will represent 80 per cent of the cost of establishing the practice. (2) An annual payment for a period of years, at a yearly rate per acre based on the productivity of the area in which the farm is located.

For the first year under the Conservation Reserve, the farmer will receive both types of payments. For the rest of the agreement period, he will receive only the annual payment. No farmer may earn duplicate payment under the ACP program for carrying out a practice for which he receives a Reserve payment. It will be the first year of Conservation Reserve that the big spurt in fertilizer sales should take place. After that, some decline off the new high level is expected, but sales should continue at a higher-than-now plateau under the annual payment schedule.

Under the Conservation Reserve, a farmer:

- May plant the Conservation Reserve acreage to grasses, legumes, or trees, or devote it to a soil-, water-, forest- or wildlife conservation practice.
- Must agree to maintain at least the same total acreage of conservation crops and uses and idle land which is normal for the rest of the farm outside of the Conservation Reserve.
- May not harvest a crop from acreage placed in the Conservation Reserve. This also means no pasturing or haying.
- May, by mutual agreement with the Secretary of Agriculture, modify or terminate the agreement if the Secretary determines this to be in the public interest or otherwise desirable. ▲

V-C Proxy Battle Looms

By Sam Lewis Veitch

NOT since the days of General Ulysses S. Grant has a battle raged with such bitterness in Richmond, Va. as that of Virginia-Carolina Chemical Corp. and a northern investment group.

V-C's Board of Directors

Name	Shares Held Preferred	Common
Edward Bartsch Business Consultant Bronxville, N. Y.	None	100
Thomas C. Boushall President, The Bank of Virginia, Richmond, Va.	None	100
Howard B. Brown Director and Secretary, Pittsburgh Plate Glass Co., Philadelphia, Pa.	None	100
Thomas B. Byrd Secretary and Treasurer, H. F. and T. B. Byrd, Inc. Orchardists, Winchester, Va.	200	None
George Champion Exec. Vice President The Chase Manhattan Bank New York City	None	100
Charles E. Heinrichs V-C Vice President Richmond, Va.	None	1,500
Joseph A. Howell V-C President Richmond, Va.	100	3,500
Alfred Levinger Limited partner, G. C. Haas & Co., Investment Securities, New York City	400	None
George E. Warren Financial Adviser New York City	100	None
George M. Wells Consulting Engineer New York City	None	None
Rupert T. Zickl Vice President Bartram Bros. Corp. Investment Securities, NYC	None	10,000

Both preferred and common stock have voting privileges

Recently, Joseph A. Howell, V-C president, let go with a bolt of fire in the form of an open letter to investment banker Rupert T. Zickl, vice-president, Bartram Bros. Corp., New York City, stating "It finally seems apparent that you and your associates are determined to seek control of the Virginia-Carolina Chemical Corporation and, if necessary to this end, force a costly proxy contest upon stockholders despite every effort made by management and the Board of Directors to work cooperatively with you for the benefit of all stockholders."

On March 2, the New York investment group served an ultimatum on the V-C board demanding that five incumbent members resign in favor of five new men of its selection—a move that would have given control to this "outside group." Howell said, "This represents power politics as contrasted with industrial democracy."

Four nominees approved by Zickl's group were elected to the Board on July 22, 1955 and Zickl was elected Chairman of the Recapitalization Committee of the Board on October 21.

According to an April 18 news release, a request for permission to form a proxy committee and to solicit proxies for shares of V-C will soon be filed with the Securities & Exchange Commission by the law firm of Perkins, Battle & Minor, Charlottesville, Virginia. It is said the firm represents a group of shareholders in Virginia and several other states.

Still convalescing from a serious operation performed in January, Zickl has stated that he is only one of a group who is interested in V-C. Asked if he wanted to change the company management he replied, "I don't think so. We want to change the board of directors. . . . If you want to improve the company, you start with the board."

According to the Richmond *Times Dispatch*, Zickl added, "I don't want to engage in a battle of words with anyone. I want to improve the company and to hell with words." The fight stemmed, he commented, only from a decline in V-C's earnings—"if earnings had held up, stockholders would have been satisfied."

V-C reported net earnings of $4,067,074 for the year ended June 30, 1947 and $2,409,063 for the 12 months ended in June, 1955. Last year's figure was the lowest since 1946 when net earnings were $1,702,599. Management reported a net loss of $104,739 for the quarter ending September 30, 1955,

and a loss of $11,514 during the same period of the previous year.

, V-C President Howell said it appeared any dissatisfaction is more the result of a lower market price of stock in recent months. "Many shares were bought," he pointed out, "while the market price was rising from approximately $20 to approximately $50 per share in direct opposition to the trend of declining earnings for the past few years."

One person, who does not want his name disclosed, said this is not another Montgomery Ward situation. The latter firm had a big reserve of cash securities but this isn't true of V-C; the Richmond company has only plant assets and a potential future business.

He added that the big question is whether V-C should be operated for the benefit of officers or stockholders. V-C has not been sufficiently aggressive, he continued, pointing out that his family has been a large land holder for years and has never received a call from a V-C salesman although solicited by representatives of many other plant food concerns.

It has been reported that the Zickl group holdings represents 40 to 45 per cent of the total stock but, when questioned, one of its members said he thought the statement was altogether not factual.

As of June 30, 1955 the company had 2,611 holders of preferred stock and 2,057 holders of common. Both classes have equal voting power, share for share.

At present there are 496,622 shares of common stock and 213,052 of 6 per cent preferred. Dividend arrears on the latter amount to $73.50 a share.

The slate the Zickl group would like to propose includes:

William Franklin, director, Fairchild Camera & Instrument (Zickl is on the boards of Fairchild, Nickel Plate RR, Clinchfield Coal and Pittston Co.)

J. Chadbourn Bolles, president, Chadbourn-Gotham, hosiery manufacturers.

Stuart Roesler, executive vice-president, Empire Trust Co.

Alexander Thelen, trust officer, Charlottesville Citizens Bank & Trust Co.

John S. Battle, former governor of Virginia, was elected a member in March but reportedly has declined to serve. He is a partner in the law firm that has filed proxy requests with the SEC.

One director has resigned since the 1955 election giving as his reasons, "his disappointment that differences were not resolved by board changes last July, his frustration in being diverted from normal board duties and his embarrassment at being identified as one of your [the New York] group without being able to interpret your position."

One member of the Zickl slate, Alexander Thelen, may already have laid the foundation for a king-size headache for the group. In addition to bank activities, he teaches a class in corporate finance at the University of Virginia and is reported by Howell to have, "informed his students . . . that V-C stock represented an opportunity to make a killing." Thelen is said to have added that the insurgent group "would either change the management group or force them to pay off the preferred stock." Thelen flatly denied the remarks saying, "That's ridiculous. I have no comment."

The record shows that the company went through a proxy fight in 1935, shortly after A. Lynn Ivey was elected president. Ivey was removed from the presidency during a short period of the battle, until management was proxy voted back into power.

If the current proxy fight develops, it will be interesting to see how Allied Chemical will vote its 43,500 shares of V-C preferred, about 20 per cent of the total preferred stock. ▲

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PEST REPORTS

Presented in cooperation with the Economic Insect Survey Section, Plant Pest Control Branch, Agricultural Research Service, USDA.

High Boll Weevil Survival Counts

EXAMINATION of surface woods trash to determine the number of boll weevils that survived the winter has been completed by state and Federal entomologists in most of the cotton belt states and the carry over in the majority is very high. In Florence county, S. C., over 4,500 live boll weevils per acre were found this spring. This is more than twice the average number found in the spring of 1955 and about 1½ times the average number found during the past 19 years.

In the 19 years during which records have beeen maintained for Florence county only twice, 1950 and 1953, has the number of surviving weevils exceeded the count this spring. In six other South Carolina counties—Sumter, Darlington, Horry, Laurens, Clarendon, and Orangeburg, counts averaged about 5,000 weevils per acre. This is almost 7 times the number of live weevils found in the spring of 1955.

In Georgia the state average was 390 live weevils per acre of trash. This was about 8 times the number found last spring.

In Washington county, Miss., an average of 2,178 weevils per acre of trash survived the winter. This is about one third more than found in that county in 1955. In six delta counties, including Washington, the average this spring was 1,355 and in five hill counties, 1,065 per acre of surface trash.

Surface trash samples were taken in 12 North Carolina counties and an average of 1,815 live weevils per acre was found. This number is 7.6 times the average found in 1955.

Spring survival counts in Madison parish, Louisiana, showed over 3,600 weevils per acre. This is 1.8 times the number found in 1955 and 4.3 times the average for the past 20 years. Samples taken in nine other parishes of the state averaged over 1,800 live weevils per acre of trash. In five of the parishes counts were 3.6 times those of 1955. For all samples taken in the state the average spring survival was 2,925 cotton boll weevils per acre of trash.

Counts were made from 5 southeastern counties in Virginia and the average number of live weevils found was 85 per acre of trash. This count is only slightly more than in 1955 and considerably less than the number found in the spring of 1954.

At Waco, Texas, about normal number of cotton boll weevils were present last fall. Since the winter was mild, entomologists expect about the same proportion of weevils to survive there as did in 1954, but probably considerably fewer than the number of survivors in the spring of 1955.

With the heavy carry over of cotton boll weevils in various areas farmers should be alert and determine the condition as it exists on their farms as the season progresses. They should seek the advice of the county agricultural agent or other agricultural workers who are acquainted with local conditions and practices in order to determine the opportune time to initiate control practices.

S. Alfalfa Aphid Damage in Areas

The spotted alfalfa aphid which was first reported in 1954 continues to be a serious alfalfa pest in some areas. The aphid has been a problem this year in many areas throughout the eastern two-thirds of Oklahoma. Through the early part of April counties which have reported serious damage include Logan, Caddo, Cleveland, McClain, Tulsa, Rogers, Mayes, Stephen, Garvin and others. Spraying for control of the aphid has been practiced in all sections. In some cases control practices have been abandoned because of the seriousness of the problem.

The southwestern counties of Missouri also report heavy infestations of the aphid with light to heavy populations being reported from northwestern Arkansas counties where control measures have been undertaken. Control has also been necessary in some southeastern Kansas counties, especially Montgomery, Labette and Cherokee.

Rather general infestations of the spotted alfalfa aphid have been reported through early April in northwestern Louisiana parishes but predators and parasites have apparently done a rather effective job in keeping the problem under control.

Reports of heavy infestations of the aphid have been received from Denton, Kaufman, Hunt, Delta, Brazos, Burleson, Grimes, and Houston counties, Texas. Light to heavy infestations have also been reported from the north central Texas counties along the Oklahoma line.

The situation in Arizona seems to be lighter than in 1955, and it

is the belief of entomologists there that the problem will not approach that of last year.

The pea aphid was also a serious alfalfa pest in some states during late March and early April. Arkansas reported damaging populations in about one-third of the alfalfa fields in the northwestern counties of the state. Spraying was underway in many sections of the southern half of Missouri where counts averaged 200–500 aphids per alfalfa crown in many fields.

Very heavy populations were reported for northwestern Louisiana. Kansas had counts up to 1500 aphids per sweep in some areas of 11 southeastern counties checked. Scattered infestations required control.

The brown wheat mite during late March was heavy on wheat in part of Kansas, Oklahoma and Texas. Greenbugs were also active on small grain in various areas of Texas, Oklahoma, Kansas, Missouri and Arkansas.

Other Major Pests

In early April green peach aphid was building up on lettuce in Maricopa county, Arizona and threatening populations occurred on spinach on the Eastern Shore of Virginia. Florida reported this pest on tobacco beds in mid-March. The heaviest infestation of spider mites on strawberries in three years was recorded in eastern Virginia and infestations were of concern on this crop in central Kentucky.

Among the tree-fruit insects attracting attention in early April were aphids, which were hatching as far north as Pennsylvania and New Jersey and mites, which may be worse than last year in New Jersey and which will cause damage in Idaho unless controlled.

Although armyworms do not indicate a serious problem as yet this year moth flights were reported as far north as Maryland, Kentucky, Illinois and Missouri by early April. ▲

Chemicals

Premerge Cleared For Use on Mint

Premerge, a dinitro weed killer formulation produced by Dow Chemical Co. has been cleared by USDA for use on mint. Containing as active material the mixed alkanolamine salts of the ethanol and isopropanol series of dinitro-o-sec-butylphenol, it is used commercially on a variety of crops.

The company points out that registration was granted to Premerge, a trademarked formulation, and not the principal toxicant. When used as directed there is no residue in the mint oil from either spearmint or peppermint plants.

Exper. Antibiotics Control Bean Rust

Bean rust has been controlled in preliminary greenhouse tests with F-17, an experimental antibiotic mixture developed and tested by USDA scientists. The material is a crude culture filtrate containing three and possibly four antibiotics.

Although promising the material is still far from practical grower use and further evaluation is planned in 1956 field studies. In addition to showing control of the rust, F-17 also demonstrated disease-eradicative powers.

NEW IN PACKAGING. Shipper and display for Bridgeport Brass Spot Weed Killer (left) and boxes for Smith-Douglass Nutro Plant Food Pellet bags.

N-Dur Ureaform Solution from AC & D

N-dure, Nitrogen Division's new urea-formaldehyde solution, is now being produced at South Point, Ohio, for shipment in insulated steel tank cars. The material will enable fertilizer manufacturers, says the division, to produce granular-type plant foods containing long-lasting organic nitrogen for lawns, gardens and specialty crops.

It is a clear, golden liquid containing 12 per cent nitrogen and allows manufacturers, for the first time, to make mixtures containing a wide variety of ratios between water soluble and insoluble nitrogen.

By using the product, continues Nitrogen Div., chemically blended, granular mixtures can be made that are dust-free and practically odorless. Granulation can be achieved without special equipment, only standard ammoniation apparatus is needed.

For a descriptive folder
Circle 169 on Service Card

Thylate Fungicide Now Ready for Sale

DuPont has announced that Thylate thiram fungicide is now ready for sale and shipments will be made in time for early fungicide sprays on apples.

The material has been registered with USDA for control of rust and scab on apples and a tolerance has been established by FDA. It is a light-colored formulation which has given outstanding fruit finish in field tests.

photos by Hinde & Dauch

SPRAYING SYSTEMS
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SPRAY NOZZLES

Patent No. 2,619,388

up to 66 feet WIDE with one compact assembly

for the broadcast spraying of grains, grasses and liquid fertilizers

Easily mounted on rear of tractor. Use where spray boom accuracy is not needed. Sprays to both sides in field spraying or one side only in fence row or road side spraying. A Spraying Systems Co. **original design.** Made in all brass for general farm spraying and in all aluminum for spraying liquid fertilizers. For complete information write for Bulletins 66 and 71.

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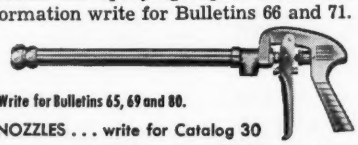

All capacities. Write for Bulletins 65, 69 and 80.

For TeeJet SPRAY NOZZLES . . . write for Catalog 30

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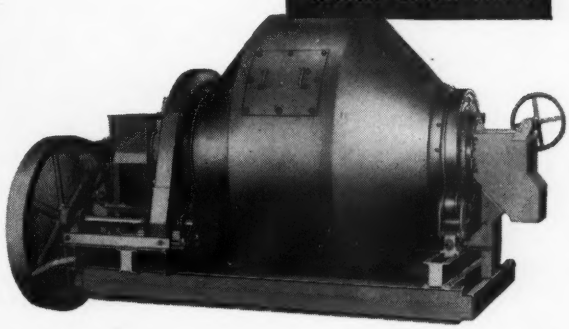


Equipment & Supplies

Larger HO Payloader Introduced by Hough

The Frank G. Hough Co. has introduced a larger model HO Payloader with many new features. In addition to a "no-stop" powershift transmission and torque converter, the unit is equipped with planetary axles and torque-proportioning differentials.

A new development in the tractor shovel field, the differential combats wheel slipping, adding to

the effectiveness of four wheel drive.

Heaped capacity of the new HO is 2¼ cubic yards and struck capacity is listed as 1¾ cubic yards. Other features include "pry-out" bucket action, 40 degrees breakout at ground level, hydraulic load shock-absorber, power-steering and four-wheel hydraulic power brakes. The new model is available with either gasoline or diesel power. For a descriptive folder

Circle 170 on Service Card

B-K Nauta Mixer Has Unique Action

Unique action of the Nauta Mixer, just introduced by Buflovak Equipment Div., Blaw-Knox Co., permits uniform mixing of any number of materials, similar or entirely different in characteristics, without dusting or particle modification.

Processional motion around the interior wall of a stationary conical body by a revolving screw flight gives both top-to-bottom and circular blending. Small quantities can be blended with large volumes, small amounts of liquid added to dry materials and solids can be dissolved in a liquid media.

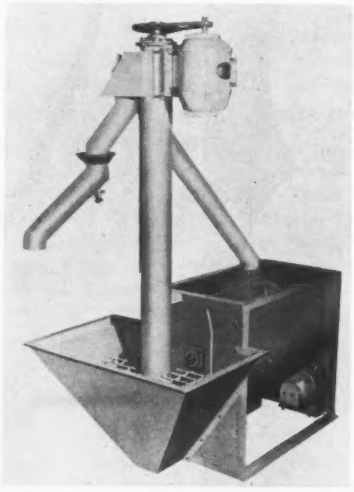
The Nauta may be jacketed for cooling or heating during blending and it can be equipped for automatic charging. It is manufactured in lab, pilot plant and full production models. For a catalog

Circle 171 on Service Card

Andrews 7tph Mixer Delivered as Unit

Seven tons per hour of pulverized, mixed fertilizer is delivered by a new batch mixer from Andrews Machine Co. Delivered in one unit, it requires only wiring of the motors.

After weighing, ingredients are dumped into a hooper, elevated by a vertical screw and discharged into the mixer. The same screw



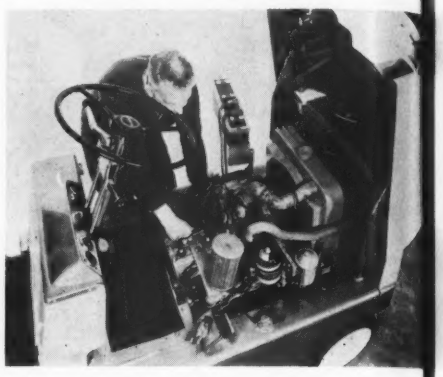
elevates the finished goods to a two-way spout for discharge into truck or other container.

Lumps are broken by hammers in the bottom of the hopper and two 7½ hp motors drive the units.

Circle 172 on Service Card

New Clarklift Line On Display in June

At the Materials Handling Institute Exposition in Cleveland, June 5, Clark Equipment Co. will introduce the Clarklift line of



fork-lift trucks. It represents, says Clark, the first major departure in fork truck design since World War II.

Exclusive features include self-adjusting brakes, a balanced swing-up hood, solid tire models with drive and steer wheels of the same diameter, lift-tilt controls on the steering column, optional radiator screens for dusty operations and allpurpose deep-tapered forms.

Standard equipment includes 12-volt electrical system, automatic transmission, emergency fuel tanks, foam rubber seats and automobile-like controls. Complete information is available.

Circle 173 on Service Card

St. Regis Lustergrip Non-Skid Coating

Lustergrip, a new-skid coating developed by St. Regis Paper Co. makes possible improved printing, less ink rub and a cleaner package. It utilizes a new principle of coating multiwalls with a material that provides an even, clean surface.

Printing, on smooth paper, is done prior to application of Lustergrip.

Circle 174 on Service Card

FLX Storage Units For Corrosive Sols.

For storage of phosphoric acid and other non-pressure corrosive liquids, Butler Mfg. Co has introduced new vertical storage tanks featuring plastic Flexi-Liners. These FLX Units are available in several sizes including 8,600 and 12,000 gallon capacities.

Tanks are fabricated of hot rolled steel and are furnished with two outlets in any combination of 2″, 3″ and 4″ sizes. Butler will furnish a supervisor for each installation which normally takes around 10 man-hours.

Circle 175 on Service Card

NH_3 Use Aided by S-W Speedometer

With the Stewart-Warner farm speedometer, says the manufacturer, the problem of coordinating over-the-ground speed of farm equipment with the flow of NH_3 can be easily handled.

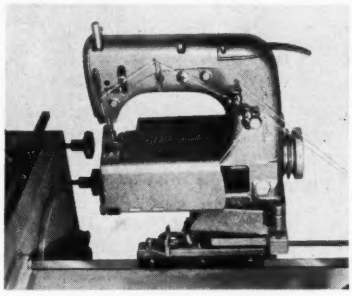
Mounted on tractor or rig, it registers the actual speed and total distance travelled regardless or varying tire sizes, gear ratios, slippage or other factors. Now available through farm dealers in a complete kit it lists at $28.85.

New Union Special Sewing Head Units

Union Special Machine Co. has replaced its Class 14500 bag closing machine sewing heads with a new class 53600 series. The units are designed for closing cotton, burlap, onasburg and one- to three-ply paper bags.

All units in the class are single-needle, high throw machines incorporating many improvements. Rated speed has been increased 50 per cent and conveyors can be synchronized with the sewing machine speed.

The seven individual styles are equipped with chain cutter, throw-out looper device and a tiltable feed dog. Three are designed for mounting on auxiliary bag machines; the others are suspended head units with variations of



counterweight or top lock balancer. For more information

Circle 176 on Service Card

Butler Liquid Mix Plant Package Deal

Butler Manufacturing Co. is entering the liquid fertilizer mixing plant field with a package arrangement which includes mixing equipment, aqua conversion system, all necessary storage facilities and, if desired, the building to house office and equipment may be specified.

The plants may be obtained as a turnkey installation or as ready-to-install units for which the customer supplies only site and necessary labor. Each will be capable of processing 10 to 15 tons per hour depending on the fertilizer grade.

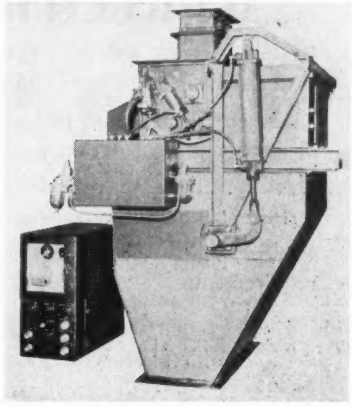
Storage facilities include aluminum tanks for nitrogen solutions black iron tanks with Flexi-Liners for phosphoric acid and black iron tanks for neutral grades.

Circle 177 on Service Card

Model 700N Batch Scale from Thayer

The new Thayer Model 700N batching scale is termed especially suitable for handling dusty, corrosive or abrasive materials. A patented plate leverage system supports the scale platform, levers and weigh beam eliminating all knife-edge pivots.

Other features include a unique rotary type feeder for charging a gateless tipping type weigh

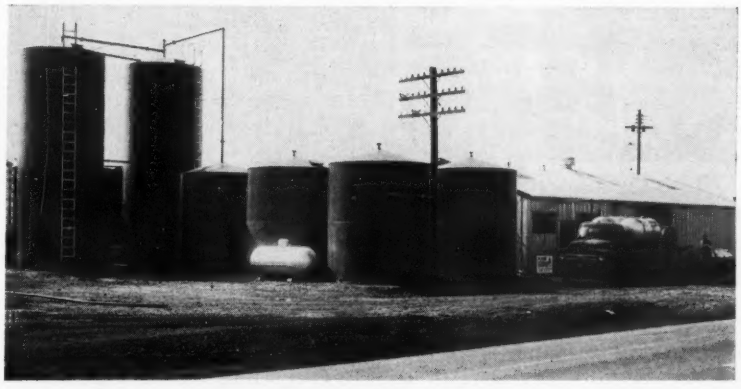


bucket, a cycle timer than controls the automatic charging and discharging and an automatic control that sounds an alarm if material supply runs low. Controls are electrical and pneumatic.

Various sizes are available for handling from 100 lbs. to 100 tons per hour with an average accuracy of ¼ of one per cent. Controls can be furnished for interlocking with existing systems. For bulletins and survey sheets

Circle 178 on Service Card

Butler installations at Kaw Fert. Service, Inc., Lawrence, Kan.



CLASSIFIED ADVERTISING

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Help wanted, positions wanted, used machinery and business opportunities are now charged at only 10 cents per word, $2.00 minimum. Count box number as five words.

Display ads . . . $15.00 per column inch, minimum of one inch. Ads over the minimum are accepted only in multiples of one half inch.

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AGRICULTURAL SALESMEN

Experienced in selling nitrogen products or other fertilizer materials to fertilizer manufacturers required.

Salesmen are expected to become familiar with the technology of ammoniating solution used in mixed fertilizer manufacture.

Duties will be to sell the company's nitrogen products to fertilizer manufacturers.

In reply state personal data, education, experience, and salary requirements.

Inquiries held confidential.

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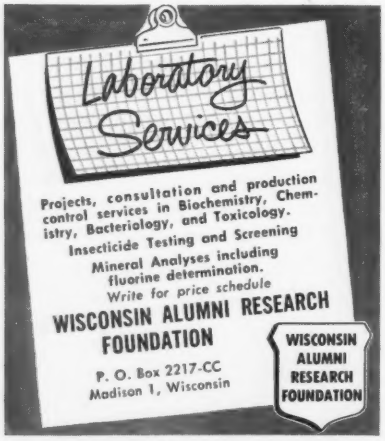
FOR SALE: Slightly used Fischer and Porter automatic flowraters. One for nitrogen solutions 1,500 to 15,000 pounds per hour range; one for sulfuric acid 800 to 8000 pounds per hour. Complete specifications on request. Simonsen Mill, Quimby, Iowa.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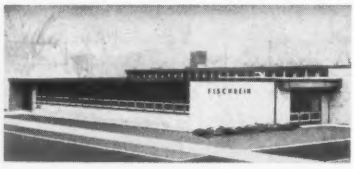


The new Dave Fischbein Co. plant at 2720 30th Ave. S., Minneapolis, Minn. designed specifically for making the Fischbein portable bag closer.

Is lung cancer increasing?

The answer is Yes—and very rapidly, too. In the past 20 years, deaths from lung cancer in women have increased over 200% and in men over 600%. In 1954, 17% of all male cancer deaths were due to lung cancer.

You can help fight lung cancer —and all forms of cancer—in two ways. A thorough checkup at least once a year . . . and a check to the American Cancer Society.

Give to your Unit of the American Cancer Society or mail your gift to CANCER, c/o your town's Postmaster.

American Cancer Society

Suppliers' Briefs

Clark Equipment Co. Operations were to begin this month at the new Richmond, Calif. modification center and parts depot for the Industrial Truck Div. Work includes completing assembly of fork lift trucks and production of attachments.

Kraft Bag Corp. Ed Burgers, Jr., former St. Louis area sales rep, is new sales promotion manager with headquarters in New York.

Ludlow-Saylor Wire Cloth Co. This manufacturer of woven wire cloth and other products for industry has completed 100 year in business.

Union Bag & Paper Corp. Multiwall bag div. changes:

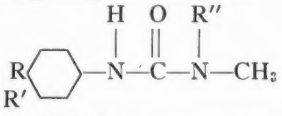
W. W. Dipman, assistant to S. K. Bradley; new district sales managers: W. S. Eldredge, northeast, R. B. Bennett, southeast, W. A. Molzahn, southwest, B. J. O'Hearm, Denver; sales reps: J. C. Bauman to NYC for N. J. & Penna., M. Turner to Jacksonville for Ga. and Fla., and E. N. Corrent to NYC covering the metropolitan area.

by Dr. Melvin Nord

PATENT REVIEWS

Tri-Substituted Urea Herbicides

US 2,728,654 issued Dec. 27, 1955 to Henry J. Gerjovich and assigned to E. I. duPont de Nemours & Co. describes a group of tri-substituted urea herbicides having the general formula

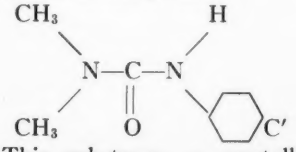


where R is hydrogen or an alkyl (up to 4 carbons), R′ is hydrogen or methyl and R″ is propyl or butyl.

The patent gives several examples of their use in controlling weeds or quack grass.

Free-Flowing, Solid Urea Weed Killer

US 2,731,337 issued Jan. 17, 1956 to Henry L. Morrill and Ferdinand B. Zienty assigned to Monsanto Chem. Co. describes free-flowing herbicidal compositions containing 3-(p-chlorophenyl)-1, 1-dimethyl urea



This substance, a crystalline solid melting at 175°C, is mixed with an equal weight of phenol. The liquid composition formed is mixed with fuller's earth at 85–95°C. Upon cooling the product is free-flowing and dustless.

Low-Vol Esters for Prolonged Storage

US 2,731,339 issued Jan. 17, 1956 to Wm. R. Davie and assigned to Pittsburgh Coke & Chem. Co. describes new herbicides—the 2-ethyl hexanol-1 ester of 2,4-dichlorophenoxyacetic acid, 2,4,5-trichlorophenoxyacetic acid and 4-chloro-2-methylphenoxyacetic acid.

These esters have very low vapor pressure, relatively high acid equivalency and are highly soluble in conventional solvents so that concentrated solutions may be prepared and stored for long periods at low temperatures without crystallization.

In US 2,732,291 issued Jan. 24, 1956 to the same inventor and assignee, added low volatile herbicides are disclosed. These contain mixtures of esters produced by reacting a mixture of trimethyl pentyl alcohol, dimethyl hexyl alcohol and methyl heptyl alcohol with the above acids.

TVA Continuous Super Ammoniator

US 2,729,554 issued Jan. 3, 1956 to Francis T. Nielsson and assigned to TVA describes an apparatus for the continuous ammoniation of superphosphate without reversion of P_2O_5 to unavailable form.

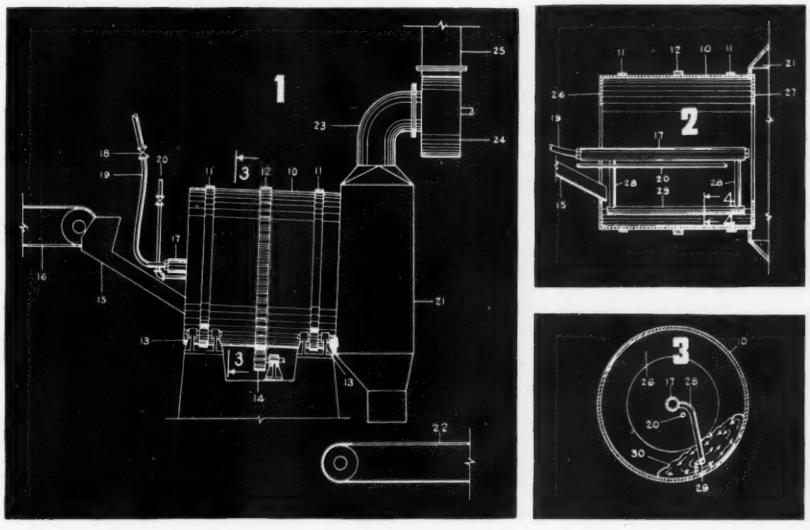
As shown in the figures, 10 designates a rotary drum fitted with tires 11 and spur gear 12. Drum 10 is mounted on trunnions 13 and driven through gear 14 by a motor. A feed chute 15 is adapted to convey superphosphate from feeder-conveyor 16 to the interior of the drum.

Ammonia solution is fed to manifold 17 mounted within the drum via control valve 18 and flexible conduit 19. Communicating with manifold 17 are supply tubes 28 which in turn communicate with slotted distribution member 29.

Water for cooling is introduced through valved line 20. The portion of line 20 within the drum is perforated to direct a spray of water onto material in the drum. The lower portion of hood 21 conducts ammoniated superphosphate to product conveyor 22.

Duct 23 at the upper end of the hood communicates with fan 24 and stack 25. Fan 24 induces a flow of air through the drum and discharges this air, laded with moisture and any fumes from the drum, to the atmosphere.

The action shown in figure 3 causes a thorough mixing of the material and causes particles of superphosphate to be exposed to ammonia a number of times as it progresses through the drum.



Fertilizer Materials Market

New York

April 12, 1956

Sulfate of Ammonia. Stocks on hand at production points were said to be considerable but no price changes were recorded. Most producers were in hopes the export demand would take up some of the surplus but so far very little has been exported.

Urea. This market was mostly a routine affair with prices still about $105 per ton delivered buyer's plants at Eastern points. Very little imported material is arriving.

Nitrogenous Tankage. Future prices were announced by one manufacturer and they are lower than present season's prices but buying is still limited as most fertilizer people want to see if they will carry over any stocks. Prices range from $3.75 to $4.50 per unit of ammonia ($4.56 to $5.47 per unit N) according to production points and demand is still slow.

Castor Pomace. Scattered sales have been made on the basis of $40 per ton, f.o.b. production points.

Organics. Little trading was reported in the organic fertilizer materials market as buyers still hesitated to buy beyond their immediate requirements, due to the lateness of the present fertilizer season. Tankage sold at $4 per unit of ammonia ($4.86 per unit N) f.o.b. New York and blood sold at $4.50 per unit of ammonia ($5.47 per unit N) f.o.b. eastern shipping points.

Fish Meal. This market was slow and little trading reported. Some imported fish meal recently imported at Atlantic ports remained unsold as buyers looked forward to the start of fishing operations in this country in another 60 days.

Bone Meal. Last sales were made on the basis of $60 to $65 per ton, f.o.b. production points according to quality. Demand has not been as heavy as last year from the fertilizer trade and feed buyers are taking on material only as they actually need it.

Hoof Meal. This market moved up slightly and sales were made at $6.50 per unit of ammonia ($7.90 per unit N) f.o.b. Chicago. Most of the material was said to be going to industrial buyers.

Feather Meal. Material was said to be available of fertilizer quality at $4.50 per unit of ammonia ($5.47 per unit N) delivered Eastern points in bulk with demand slow.

Superphosphate. Triple superphosphate was reported moving fairly well, but regular superphosphate was in rather spotty demand and shipments in most cases were behind last year.

Potash. Some producers reported movement slow for this time of year but still expect shipments to increase as soon as Spring planting gets under way, particularly in the Midwest. Some imported material was reported arriving at Eastern ports. Most domestic buyers were short of storage space to take in additional supplies.

Philadelphia

April 12, 1956

The present raw materials market is quite devoid of activity and is abnormally dull. Inventories of producers continue to accumulate, and farmers are still slow in taking delivery of mixed fertilizer. The season, generally, is several weeks behind. Blood and tankage are lower, as are also fish meal and fish scrap. Superphosphate is moving a little better. Potash is quiet.

Sulfate of Ammonia. Fair movement is reported for direct application, but demand for mixing is slow and stocks continue to accumulate. Price on the Pacific Coast has been reduced $3 per ton.

Nitrate of Ammonia. Large production continues and movement is not too good, except possibly in the South for direct application. Prices remain unchanged.

Nitrate of Soda. Demand fair, but not up to normal for the season. Prices remain at $43.50 per ton in bulk, and $47 in bags for domestic grade, f.o.b. producers' plant; and $47.75 bulk and $51.25 in bags for the Chilean grade.

Blood, Tankage, Bone. Market is very quiet for these articles. Blood is down to $4.50 per unit ammonia ($5.47 per unit N), and tankage to $4 ($4.86 per unit N). Bone meal is in fair demand at $65 per ton.

Castor Pomace. Supply is quite limited and latest sale reported at $40 per ton.

Fish Scrap. Market dropped suddenly to $133 per ton for meal and $129 for scrap. The supply is not overly plentiful, and new catch is scheduled to appear shortly.

Phosphate Rock. Supply is ample and movement fair, but could be better. No recent price changes noted.

Superphosphate. Market is rather weak and while movement is somewhat improved, it is still below normal. Triple grade is a little more active due to slight freight advantage per unit.

Potash. Market is very quiet and somewhat discouraging, but producers are looking for material improvement in the very near future. ▲

Statistics

Sodium Chlorate Output Gains 25%

Domestic sodium chlorate production, which used about three-fourths of available capacity in 1955, was estimated by producers at about 50,000 tons, close to a 25 per cent increase over the 1954 rate, according to a recent Department of Commerce report.

Consumption increased 12 per cent from 1954 to 1955 with herbicides representing largest tonnage end-use in both years.

Potash Deliveries Increase from '54

Potash deliveries in North America last year of 3,744,143 tons of salts containing an equivalent of 2,201,279 tons K_2O reflect an increase of 141,636 tons K_2O or 7 per cent over 1954. In continental US, 1955 deliveries for agricultural purposes were 1,875,438 tons K_2O, an increase of 40,628 tons over 1954.

Agricultural potash accounted for over 95 per cent of deliveries, with muriate of potash continuing as the most popular material, comprising nearly 94 per cent of the total K_2O delivered for agricultural purposes.

Super Shipments

During January, shipments of all grades of superphosphate totaled 161,024 short tons.

For the period July, 1955 through January, 1956, shipments were as follows: Normal, 466,511; enriched, 6,654; concentrated, 328,711; and wet-base goods, 1,150, reflecting percentage changes from the 1955 season of +5, +33, +11, and −57, respectively.

States Report on Plant Food Sales

During 1955, 87,381 tons of commercial fertilizers and fertilizer materials were sold in West Virginia, which compared to 1954 sales, indicates a 13 per cent increase during the first six months of the year and 43 per cent during the last half, or 18 per cent increase for the year. Mixed fertilizer sales increased by 10,665 tons and superphosphate sales more than doubled while unmixed nitrogen sales were slightly lower than in 1954.

In Maryland, 310,453.55 tons were sold during 1955, of which 271,660.93 were complete mixed goods, 14,135.63 tons superphosphate-potash mixtures and 7,896.16 tons nitrogen materials. During the year, six grades of fertilizers were offered for sale in the state containing aldrin, chlordane and 2,4-D. Total tonnage sold was 452.56. Best seller continued to be 5–10–10, with 94,453 tons sold.

Kentucky mixed goods sold during 1955 totaled 415,916 tons and materials, 103,277 tons. Highest sales reported were of 4–12–8, 63,730 tons, and 3–12–12, 59,723 tons.

Production — January, 1956

Compiled from Government Sources

Chemical	Unit	January 1956	January 1955	December 1955
Ammonia, synth. anhydrous	s. tons	[1]279,164	270,363	272,748
Ammonia liquor, coal & coke (NH_3 content) (Including diamm. phosphate & ammon. thiocyanate)	pounds	3,796,506	3,330,620	3,893,664
Ammonium nitrate, fert. grade (100% NH_4NO_3)	s. tons	[1]177,150	169,552	167,675
Ammonium sulfate				
synthetic (technical)	s. tons	[1]95,387	103,001	104,457
coke oven by-product	pounds	167,103,521	158,890,242	167,386,683
BHC (Hexachlorocyclohexane)	pounds	6,080,071	2,271,799	4,892,565
Gamma content	pounds	1,003,512	440,411	902,239
Copper sulfate (gross)	s. tons	2,548	4,620	———
DDT	pounds	11,592,627	9,359,355	10,991,192
2,4-D Acid	pounds	2,761,627	2,503,198	2,402,896
esters and salts	pounds	**1,405,005	1,734,673	1,446,619
esters and salts (acid equiv.)	pounds	**1,098,889	1,361,796	1,179,766
Lead arsenate (acid & basic)	s. tons	1,256	———	813
Phosphoric acid (50% H_3PO_4)	s. tons	328,052	276,286	304,081
Sulfur, Native (Frasch)	l. tons	———	446,512	574,144
Recovered	l. tons	———	33,200	35,750
Sulfuric acid, gross (100% H_2SO_4)	s. tons	[1]1,437,000	1,312,811	*1,469,368
Superphosphate (100% APA)	s. tons	254,696	209,017	*231,613
Normal (100% APA)	s. tons	155,168	143,228	*155,495
Enriched (100% APA)	s. tons	2,147	3,667	2,571
Concentrated (100% APA)	s. tons	79,379	61,125	72,707
Wet Base (100% APA)	s. tons	662	997	840
Other phos. fertilizers	s. tons	17,340	———	———
2,4,5-T Acid	pounds	408,070	———	———
Urea	pounds	71,908,760	———	———

* Revised. ** Partly estimated. [1]Includes quantities for 2 plants previously not reporting.

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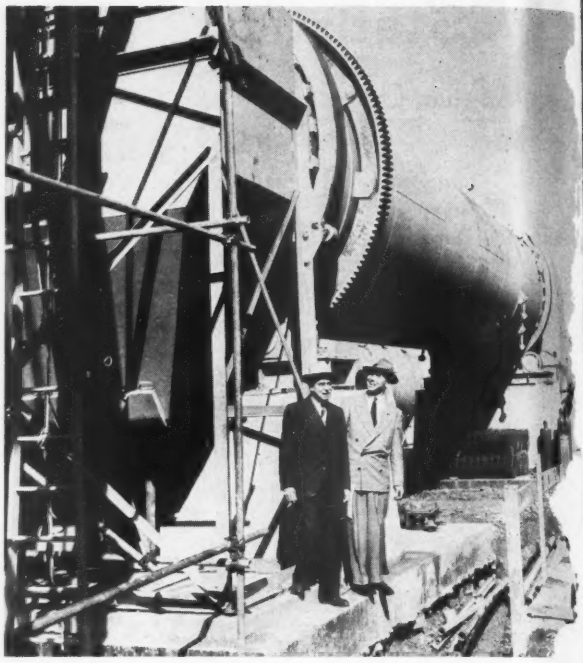

P. S. Williams, Calspray Chief Engineer (left) and J. B. Stichka, Project Engineer in front of rotary drier at Richmond, Cal. complex fertilizer plant site.

Progress Report on Calspray Plant

BY FALL, the final unit of California Spray-Chemical Corp's complex fertilizer plant now under construction near Richmond, Calif., is expected to begin production. P. S. Williams, the firm's chief engineer, reports that work passed the halfway mark on schedule and that Calspray expects to ship the first nitric acid by mid-May.

Calspray is utilizing the French PEC (Societe Potasse et Engrais Chemique) process in which nitric acid is the main acidulant for phosphate rock and by-product sulfuric acid or phosphoric acid are secondary actuators.

When all units are on stream, the plant will be capable of producing some one thousand tons of pelletized fertilizer per day. Precision pug-rolling and micro-screening will assure uniform pellet size.

Williams stated that Calspray became interested in the PEC process technique because sulfuric acid shortages in 1950 and 1951 had curtailed production of complete mixes by many companies. The process will make Calspray sufficiently basic, he added, that it will be able to ensure production and delivery to growers at all times. ▲

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editorial

THE spread of the spotted alfalfa aphid has been an awesome occurance A year after discovery of the pest during 1954 in New Mexico it caused damage estimated at $13 million in three states and now, just two years later, it threatens to spread to all alfalfa growing sections of the country.

Alarmed at the prospects, the American Dehydrators Association and at least two state level groups have made strong pleas for Federal aid resulting in a rash of proposed House bills calling for allocation of funds for purchase of pesticide materials. One would provide $15 million for such purposes, with another $5 million for research on control methods. Transfer of funds from grasshopper control projects has also been considered.

But all of this activity appears to have been in vain for, says Dr. Byron T. Shaw, the aphid cannot be brought under control by such efforts. The Agricultural Research Service administrator, testifying before a subcommittee of the House committee on agriculture, said that the only worthwhile Federal assistance will be in the development of alfalfa strains resistant to the pest.

He pointed out that contrary to some opinion, there is really no parallel between control of the aphid and Federal efforts connected with the pink bollworm, grasshoppers or the Mediterranean fruit fly. With the aphid an effective control periphery cannot be set up because the pest is so widespread and travels so far—it has been found at heights of some 5,000 feet.

The outlook is anything but encouraging at present, he continued, stating that many authorities are confident the aphid will infest all alfalfa areas of the country in a very short time, regardless of the controls that may be used.

USDA already has the necessary authority, Shaw reported, to work on development of resistant strains, and will need from Congress only $28,000 for entomological work and $45,000 for plant breeding. Both sums are covered in a pending request.

A new type of alfalfa has been developed by USDA, he noted, that has been found resistant to the pest in the southwest. However only two million pounds of this "lahontan" strain will be available for seed use this fall and it can be used only in the area where resistance has been demonstrated. Up to three years, he estimated, will be required to develop the proposed program with added time required for commercial production.

For the present, the control task is definitely in the hands of pesticide producers. Malathion, parathion, DDT and toxaphene have been effective to some degree in most areas although spring control has not always been satisfactory.

There is a need, said Shaw, for new and less expensive materials, a remark that will hardly be viewed with surprise. It's difficult to think of any area of pest control in which some authority has not cited the need for cheaper materials.

A POOR fertilizer year appears in prospect with present estimates of a drop of up to 10 per cent in sales as compared with last season. Between the farm bill football and completely unpredictable weather, plant foods just haven't had a chance.

In his report on International Minerals & Chemical Corp.'s first quarter, Louis Ware, president, noted that, although substantial shipments would be made once farmers could get into their fields, it is unlikely that fertilizer consumption will equal last year's volume.

On the pesticide front the situation is much brighter and, with the inventory situation in hand for the first time in a long while, this could well be the best year since 1951.

Continued overseas shipments of control chemicals will aid considerably and, from the first of the year, FC has reported ICA authorizations for agricultural pesticides totaling well over $6.2 million. Included in the sum is $1,971,000 for Indonesia, $1,153,000 for Korea and $2,166,700 for India.

At home, reports from USDA's Plant Pest Control Branch indicate that some of our primary troublemakers will be out in full force this year. The European corn borer is expected to be serious in many areas, boll weevil counts are reported at least double those of last year in four Southern states and a variety of other insects are reported active.

USDA's Grasshopper Control Project has estimated that infested range areas this year in 16 Western states will total 20,220,870 acres. The probable infestation in the Southwest is termed more widespread and severe than at any time in recent years.

Areas with "very severe" populations on range and/or crop land were noted by the project group in Oregon, Washington, Nevada, Wyoming, Idaho, Utah, Montana, Colorado, Kansas, New Mexico and Nebraska.

One not so promising aspect is that the Federal grasshopper control program apparently won't be so large as last year's. In Kansas the legislature has failed to provide funds for that state's projected share of the project and a similar situation is reported in Texas.

However, bid invitations have now gone out covering operations on over 300,000 acres in Wyoming and are expected soon for application work on a 785,000 acre section in New Mexico.

G. P. T., Jr.
Editor

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Ashcraft-Wilkinson Co., Atlanta, Ga.

PHOSPHATE ROCK
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, N. Y. C.
International Min. & Chem. Corp., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

PHOSPHORIC ACID
American Agricultural Chemical Co., N. Y. C.

PLANT CONSTRUCTION—Fertilizer and Acid
Link-Belt Co., Chicago, Ill.
Stedman Foundry and Machine Co., Aurora, Ind.
Sturtevant Mill Co., Boston, Mass.

POTASH—Muriate
American Potash & Chemical Corp., Los Angeles, California
Ashcraft-Wilkinson Co., (Duval Potash) Atlanta, Ga.
Bradley & Baker, N. Y. C.
Duval Sulphur & Potash Co., Houston, Tex.
International Min. & Chem. Corp., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
National Potash Co., N. Y. C.
Potash Co. of America, Washington, D. C.
United States Potash Co., N. Y. C.

POTASH—Sulfate
American Potash & Chemical Corp., Los Angeles, California
International Min. & Chem. Corp., Chicago, Ill.
Potash Co. of America, Washington, D. C.

PRINTING PRESSES—Bag
Schmuts Mfg. Co., Louisville, Ky.

PYROPHYLLITE
Ashcraft-Wilkinson Co., Atlanta, Ga.
Pioneer Pyrophyllite Producers, Beverly Hills, Calif.

REPAIR PARTS AND CASTINGS
Stedman Foundry and Machine Co., Aurora, Ind.

SCALES—Including Automatic Baggers
Exact Weight Scale Co., Columbus, O.
Stedman Foundry and Machine Co., Aurora, Ind.

SCREENS
Ludlow-Saylor Wire Cloth Co., St. Louis, Mo.
Stedman Foundry and Machine Co., Aurora, Ind.
Sturtevant Mill Co., Boston, Mass.

SHOVEL LOADERS
Clark Equipt. Co., Benton Harbor, Mich.
Hough, The Frank G. Co., Libertyville, Ill.
Tractomotive Corp., Deerfield, Ill.

SOILTEST EQUIPMENT
The Edwards Laboratory, Norwalk, O.

SPRAYERS
Finco, Inc., N. Aurora, Ill.

SPRAYS
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Spraying Systems Co., Bellwood, Ill.
Baughman Mfg. Co., Jerseyville, Ill.

SPREADERS, TRUCK
Baughman Manufacturing Co., Jerseyville, Ill.
Highway Equipment Co., Cedar Rapids, Ia.

STORAGE TANKS
Cole, R. D., Manufacturing Co., Newnan, Ga.

SULFATE OF AMMONIA
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, N. Y. C.
Jackle, Frank R., New York City
Lion Oil Co., El Dorado, Ark.
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.
Phillips Chemical Co., Bartlesville, Okla.
Woodward & Dickerson, Inc., Philadelphia, Pa.

SULFATE OF POTASH—MAGNESIA
International Min. & Chem. Corp., Chicago, Ill.

SULFUR
Ashcraft-Wilkinson Co., Atlanta, Ga.
Texas Gulf Sulphur Co., New York City
Woodward & Dickerson, Inc., Philadelphia, Pa.

SULFUR—Dusting & Spraying
Ashcraft-Wilkinson Co., Atlanta, Ga.
U. S. Phosphoric Products Div., Tennessee Corp., Tampa, Fla.

SULFURIC ACID
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, N. Y. C.
International Min. & Chem. Corp., Chicago, Ill.
Lion Oil Company, El Dorado, Ark.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

SUPERPHOSPHATE
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, N. Y. C.
Davison Chemical Co., div. of W. R. Grace & Co., Baltimore, Md.
International Min. & Chem. Corp., Chicago, Ill.
Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston, S. C.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Woodward & Dickerson, Inc., Philadelphia, Pa.

SUPERPHOSPHATE—Concentrated
Armour Fertilizer Works, Atlanta, Ga.
Bradley & Baker, N. Y. C.
International Min. & Chem. Corp., Chicago, Ill.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Woodward & Dickerson, Inc., Philadelphia, Pa.

TALC
Ashcraft-Wilkinson Co., Atlanta, Ga.

TANKAGE
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, N. Y. C.
International Min. & Chem. Corp., Chicago, Ill.
Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

TANKS—NH3 and Liquid N
Cole, R. D. Manufacturing Co., Newnan, Ga.

TOXAPHENE
Ashcraft-Wilkinson Co., Atlanta, Ga.

TRUCKS—SPREADER
Baughman Mfg. Co., Jerseyville, Ill.
Highway Equipment Co., Cedar Rapids, Ia.

UREA & UREA PRODUCTS
Atkins, Kroll & Co., San Francisco, Calif.
Bradley & Baker, N. Y. C.
Grand River Chem. Div., Deere & Co., Tulsa, Okla.
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.
Sohio Chemical Co., Lima, O.

UREA-FORM
Nitro-Form Agricultural Chemicals, Woonsocket, R. I.

VALVES
Monarch Mfg. Works, Inc., Philadelphia, Pa.

ZINC SULFATE
Tennessee Corp., Atlanta, Ga.

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